



CỤC ĐĂNG KIỂM VIỆT NAM - VIETNAM REGISTER PHÒNG TÀU BIỂN

SEA-GOING SHIP CLASSIFICATION AND REGISTRY DEPARTMENT

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THÔNG BÁO KỸ THUẬT- TECHNICAL INFORMATION

Ngày 26 tháng 06 năm 2008

Số thông báo: 021KT/08TB

Nội dung: Các quy định và hướng dẫn về việc nhận biết và theo dõi tầm xa tàu biển được thông qua tại khoá họp thứ 84 của Ủy ban An toàn hàng hải.

Kính gửi: Các Chủ tàu/ Công ty quản lý tàu

Các Đơn vị thiết kế tàu

Các Nhà máy đóng tàu

Các Chi cục Đăng kiểm tàu biển

Như đã thông báo đến các Quý Cơ quan tại Thông báo kỹ thuật số 047KT/07TB ngày 28 tháng 12 năm 2008, Quy định V/19-1 về việc nhận biết và theo dõi tầm xa tàu biển (Long-range Identification and Tracking of Ships - LRIT) của Công ước quốc tế về an toàn sinh mạng con người trên biển (SOLAS 74) sẽ có hiệu lực áp dụng từ ngày 31 tháng 12 năm 2008.

Tại khoá họp thứ 84 được tổ chức từ ngày 07 đến 16 tháng 05 năm 2008 tại Luân Đôn, Vương quốc Anh, Ủy ban An toàn hàng hải (MSC) của Tổ chức Hàng hải quốc tế (IMO) đã thông qua/ phê chuẩn các văn kiện sau đây liên quan đến LRIT:

- Nghị quyết MSC.263(84) về "Tiêu chuẩn chức năng sửa đổi và yêu cầu hoạt động đối với việc nhận biết và theo dõi tầm xa tàu biển". Nghị quyết này bãi bỏ Nghị quyết MSC.210(81) và MSC.254(83).
- Thông tư MSC.1/Circ.1256 về "Hướng dẫn về việc thực hiện hệ thống LRIT".
- Thông tư MSC.1/Circ.1257 về "Hướng dẫn thực hiện việc kiểm tra và chứng nhận sự phù hợp của tàu với các yêu cầu truyền phát thông tin LRIT".
- Thông tư MSC.1/Circ.1258 về "Hướng dẫn đối với các dịch vụ tìm kiếm và cứu nạn liên quan đến việc yêu cầu và tiếp nhận thông tin LRIT".

Chúng tôi xin gửi đến các Quý Cơ quan, kèm theo Thông báo kỹ thuật này, các văn kiện nói trên của MSC và đề nghị các Quý Cơ quan lưu ý việc trang bị thiết bị LRIT cho tàu theo đúng thời hạn quy định.

Thông báo kỹ thuật này được nêu trong mục: *Thông báo của VR/ Thông báo kỹ thuật TB* của trang tin điện tử của Cục Đăng kiểm Việt Nam: <http://www.vr.org.vn>

Nếu Quý cơ quan cần thêm thông tin về vấn đề nêu trên, đề nghị vui lòng liên hệ:

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Xin gửi đến các Quý Cơ quan lời chào trân trọng.

TRƯỞNG PHÒNG TÀU BIỂN

Nơi nhận:

-Như trên

-QP, CN, CTB, VRQC, MT

-Lưu TB

Nguyễn Vũ Hải

ANNEX 9

RESOLUTION MSC.263(84) (adopted on 16 May 2008)

REVISED PERFORMANCE STANDARDS AND FUNCTIONAL REQUIREMENTS FOR THE LONG-RANGE IDENTIFICATION AND TRACKING OF SHIPS

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO resolution A.886(21) on Procedure for the adoption of, and amendments to, performance standards and technical specifications, by which the Assembly resolved that the function of adopting performance standards and technical specifications, as well as amendments thereto shall be performed by the Maritime Safety Committee,

RECALLING FURTHER the provisions of the new regulation V/19-1 of the International Convention for the Safety of Life at Sea, 1974, as amended (the Convention), relating to the long-range identification and tracking of ships,

ALSO RECALLING the Performance standards and functional requirements for the long-range identification and tracking of ships (the Performance standards) adopted by resolution MSC.210(81) and amended by resolution MSC.254(83),

RECOGNIZING the need to adopt certain amendments to the Performance standards,

HAVING CONSIDERED the recommendation made, at its eighty-fourth session,

1. ADOPTS the Revised performance standards and functional requirements for the long-range identification and tracking of ships, set out in the Annex to the present resolution;
2. RECOMMENDS Contracting Governments to the Convention to ensure that:
 - .1 shipborne systems and equipment used to meet the requirements of regulation V/19-1 of the Convention conform to performance standards not inferior to those specified in the Annex to the present resolution;
 - .2 all Long-range identification and tracking (LRIT) Data Centres and the International LRIT Data Exchange conform to functional requirements not inferior to those specified in the Annex to the present resolution; and
 - .3 they promptly submit to the Organization and to the LRIT Data Centres the required information to enable the establishment and the continuous functioning of the LRIT system and that they update such information as and when changes occur;

3. AGREES to review and amend, in the light of experience gained as necessary, the Revised performance standards and functional requirements for the long-range identification and tracking of ships, set out in the Annex to the present resolution;
4. REVOKES resolutions MSC.210(81) and MSC.254(83).

ANNEX

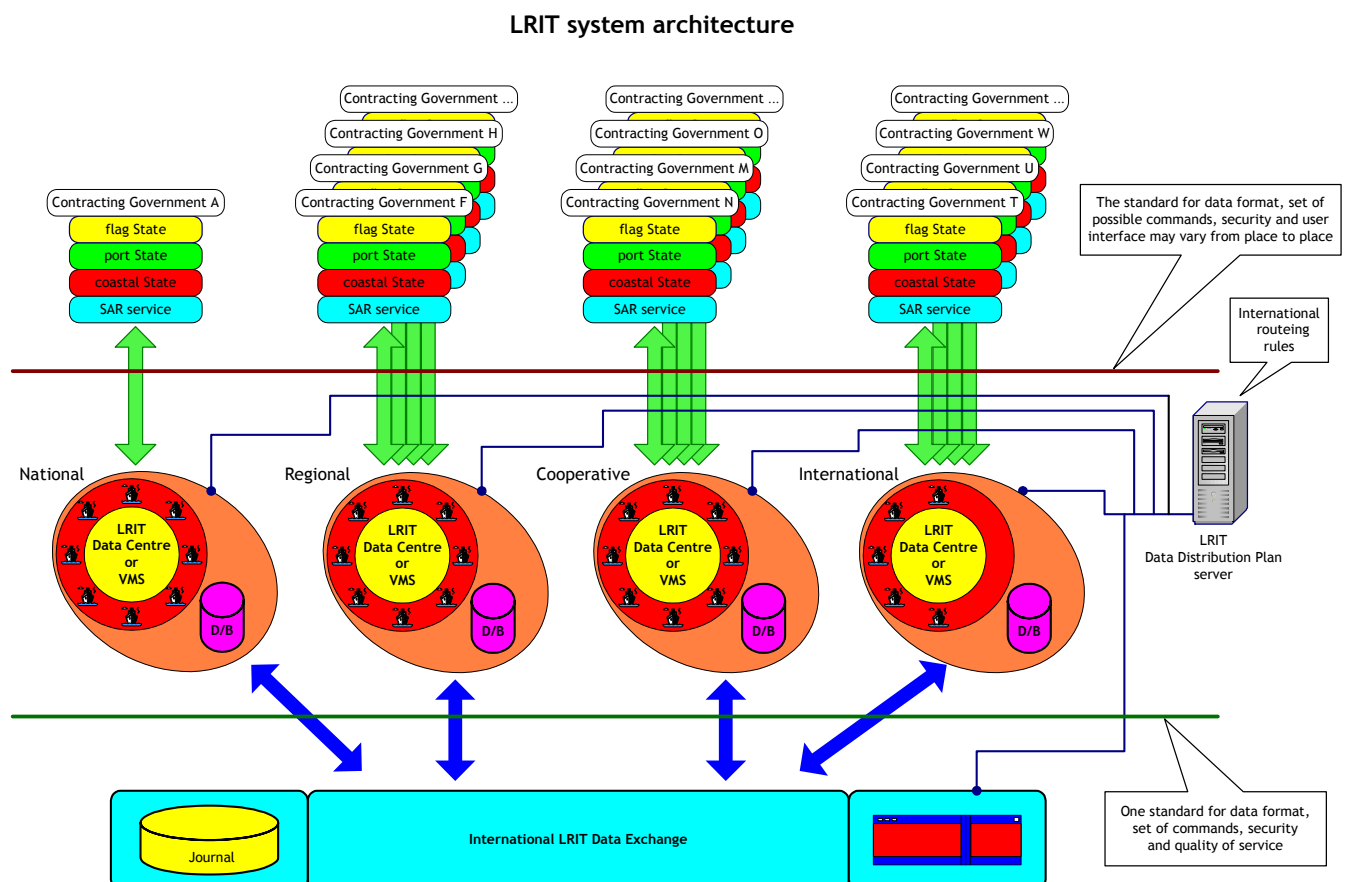
REVISED PERFORMANCE STANDARDS AND FUNCTIONAL REQUIREMENTS FOR THE LONG-RANGE IDENTIFICATION AND TRACKING OF SHIPS

1 Overview

1.1 The Long-Range Identification and Tracking (LRIT) system provides for the global identification and tracking of ships.

1.2 The LRIT system consists of the shipborne LRIT information transmitting equipment, the Communication Service Provider(s), the Application Service Provider(s), the LRIT Data Centre(s), including any related Vessel Monitoring System(s), the LRIT Data Distribution Plan and the International LRIT Data Exchange. Certain aspects of the performance of the LRIT system are reviewed or audited by an LRIT Coordinator acting on behalf of all Contracting Governments. Figure 1 provides an illustration of the LRIT system architecture.

Figure 1



1.3 LRIT information is provided to Contracting Governments and Search and rescue services¹ entitled to receive the information, upon request, through a system of National, Regional, Cooperative and International LRIT Data Centres, using where necessary, the International LRIT Data Exchange.

1.4 Each Administration should provide to the LRIT Data Centre it has selected, a list of the ships entitled to fly its flag, which are required to transmit LRIT information, together with other salient details and should update, without undue delay, such lists as and when changes occur. Ships should only transmit the LRIT information to the LRIT Data Centre selected by their Administration.

1.5 The obligations of ships to transmit LRIT information and the rights and obligations of Contracting Governments and of Search and rescue services to receive LRIT information are established in regulation V/19-1 of the 1974 SOLAS Convention.

2 Definitions

2.1 Unless expressly provided otherwise:

- .1 *Convention* means the International Convention for the Safety of Life at Sea, 1974, as amended.
- .2 *Regulation* means a regulation of the Convention.
- .3 *Chapter* means a chapter of the Convention.
- .4 *LRIT Data User* means a Contracting Government or a Search and rescue (SAR) service which opts to receive the LRIT information it is entitled to.
- .5 *Committee* means the Maritime Safety Committee.
- .6 *High-speed craft* means a craft as defined in regulation X/1.3.
- .7 *Mobile offshore drilling unit* means a mobile offshore drilling unit as defined in regulation XI-2/1.1.5.
- .8 *Organization* means the International Maritime Organization.
- .9 *Vessel Monitoring System* means a system established by a Contracting Government or a group of Contracting Governments to monitor the movements of the ships entitled to fly its or their flag. A Vessel Monitoring System may also collect from the ships information specified by the Contracting Government(s) which has established it.
- .10 *LRIT information* means the information specified in regulation V/19-1.5.

¹ The term *search and rescue service* is defined in regulation V/2.5

2.2 The term “ship”, when used in the present performance standards, includes mobile offshore drilling units and high-speed craft as specified in regulation V/19-1.4.1 and means a ship which is required to transmit LRIT information.

2.3 Terms not otherwise defined should have the same meaning as the meaning attributed to them in the Convention.

3 General provisions

3.1 It should be noted that regulation V/19-1.1 provides that:

Nothing in this regulation or the provisions performance standards and functional requirements adopted by the Organization in relation to the long-range identification and tracking of ships shall prejudice the rights, jurisdiction or obligations of States under international law, in particular, the legal regimes of the high seas, the exclusive economic zone, the contiguous zone, the territorial seas or the straits used for international navigation and archipelagic sea lanes.

3.2 In operating the LRIT system, recognition should be given to international conventions, agreements, rules or standards that provide for the protection of navigational information.

3.3 The present performance standards should always be read together with regulation V/19-1 and the technical specifications for the LRIT system².

4 Shipborne equipment

4.1 In addition to the general requirements contained in resolution A.694(17) on Recommendations on general requirements for shipborne radio equipment forming part of the global maritime distress and safety system (GMDSS) and for electronic navigational aids, the shipborne equipment should comply with the following minimum requirements:

- .1 be capable of automatically and without human intervention on board the ship transmitting the ship's LRIT information at 6-hour intervals to an LRIT Data Centre;
- .2 be capable of being configured remotely to transmit LRIT information at variable intervals;
- .3 be capable of transmitting LRIT information following receipt of polling commands; and
- .4 interface directly to the shipborne global navigation satellite system equipment, or have internal positioning capability;

² Refer to MSC.1/Circ.1259 on Interim revised technical specifications for the LRIT system.

- .5 be supplied with energy from the main and emergency source of electrical power³; and
- .6 be tested for electromagnetic compatibility taking into account the recommendations⁴ developed by the Organization.

4.2 In addition to the provisions specified in paragraph 4.1 above, the shipborne equipment should provide the functionality specified in table 1.

Table 1

DATA TO BE TRANSMITTED FROM THE SHIPBORNE EQUIPMENT

Parameter	Comments
Shipborne equipment Identifier	The identifier used by the shipborne equipment.
Positional data	<p>The Global Navigation Satellite System (GNSS) position (latitude and longitude) of the ship (based on the WGS 84 datum).</p> <p><i>Position:</i> The equipment should be capable of transmitting the GNSS position (latitude and longitude) of the ship (based on WGS 84 datum) as prescribed by regulation V/19-1, without human interaction on board the ship.</p> <p><i>On-demand⁽¹⁾ position reports:</i> The equipment should be capable of responding to a request to transmit LRIT information on demand without human interaction on board the ship, irrespective of where the ship is located.</p> <p><i>Pre-scheduled⁽²⁾ position reports:</i> The equipment should be capable of being remotely configured to transmit LRIT information at intervals ranging from a minimum of 15 min to periods of 6 h to the LRIT Data Centre, irrespective of where the ship is located and without human interaction on board the ship.</p>
Time Stamp 1	<p>The date and time⁽³⁾ associated with the GNSS position.</p> <p>The equipment should be capable of transmitting the time⁽³⁾ associated with the GNSS position with each transmission of LRIT information.</p>

Notes: ⁽¹⁾ *On-demand position reports* means transmission of LRIT information as a result of either receipt of polling command or of remote configuration of the equipment so as to transmit at interval other than the preset ones.

⁽²⁾ *Pre-scheduled position reports* means transmission of LRIT information at the preset transmit intervals.

⁽³⁾ All times should be indicated as Universal Coordinated Time (UTC).

³ This provision should not apply to ships using for the transmission of LRIT information any of the radio communication equipment provided for compliance with the provisions of chapter IV. In such cases, the shipborne equipment should be provided with sources of energy as specified in regulation IV/13.

⁴ Refer to resolution A.813(19) on General requirements for electromagnetic compatibility of all electrical and electronic ship's equipment.

4.3 The shipborne equipment should transmit the LRIT information using a communication system which provides coverage in all areas where the ship operates.

4.4 The shipborne equipment should be set to automatically transmit the ship's LRIT information at 6-hour intervals to the LRIT Data Centre identified by the Administration, unless the LRIT Data User requesting the provision of LRIT information specifies a more frequent transmission interval.

4.4.1 When a ship is undergoing repairs, modifications or conversions in dry-dock or in port or is laid up for a long period, the master or the Administration may reduce the frequency of the transmission LRIT information to one transmission every 24-hour period, or may temporarily stop the transmission of such information.

5 Application Service Providers

5.1 Application Services Provider(s) (ASPs) providing services to:

- .1 a National LRIT Data Centre, should be recognized by the Contracting Government establishing the centre;
- .2 a Regional or a Cooperative LRIT Data Centre, should be recognized by the Contracting Governments establishing the centre. In such a case, the arrangements for recognizing the ASPs should be agreed amongst the Contracting Governments establishing the centre; and
- .3 an International LRIT Data Centre, should be recognized by the Committee.

5.2 Contracting Governments should provide to the Organization a list with the names and contact details of the ASPs they recognize together with any associated conditions of recognition and thereafter should, without undue delay, update the Organization as changes occur.

5.2.1 The Organization should communicate information it receives pursuant to the provisions of paragraph 5.2 and information in relation to the ASP(s) recognized by the Committee for providing services to the International LRIT Data Centre and any changes thereto to all Contracting Governments, all LRIT Data Centres, the International LRIT Data Exchange and the LRIT Coordinator.

5.3 An ASP function should:

- .1 provide a communication protocol interface between the Communication Service Providers and the LRIT Data Centre to enable the following minimum functionality:
 - .1 remote integration of the shipborne equipment into an LRIT Data Centre;
 - .2 automatic configuration of transmission of LRIT information;
 - .3 automatic modification of the interval of transmission of LRIT information;

- .4 automatic suspension of transmission of LRIT information;
- .5 on demand transmission of LRIT information; and
- .6 automatic recovery and management of transmission of LRIT information;
- .2 provide an integrated transaction management system for the monitoring of LRIT information throughput and routing; and
- .3 ensure that LRIT information is collected, stored and routed in a reliable and secure manner.

5.4 The ASP where used should add the data identified in table 2 to each transmission of LRIT information:

Table 2

**DATA TO BE ADDED BY AN APPLICATION SERVICE PROVIDER
AND AT THE LRIT DATA CENTRE**

Parameters	Comments
Ship Identity ⁽¹⁾	The IMO ship identification number ⁽¹⁾ and MMSI for the ship.
Name of ship	Name of the ship which has transmitted the LRIT information in the English language using latin-1 alphabet and UTF-8 encoding.
Time Stamp 2	The date and time ⁽²⁾ the transmission of LRIT information is received by the ASP (if used).
Time Stamp 3	The date and time ⁽²⁾ the received LRIT information is forwarded from the ASP (if used) to the appropriate LRIT Data Centre.
LRIT Data Centre Identifier	The identity of the LRIT Data Centre to be clearly indicated by a Unique Identifier.
Time Stamp 4	The date and time ⁽²⁾ the LRIT information is received by the LRIT Data Centre.
Time Stamp 5	The date and time ⁽²⁾ the transmission of LRIT information is forwarded from the LRIT Data Centre to an LRIT Data User.

Notes: ⁽¹⁾ See regulation XI-1/3 and resolution A.600(15) on IMO ship identification number scheme.

⁽²⁾ All times should be indicated as Universal Coordinated Time (UTC).

5.5 In addition to the provisions of paragraph 5.3, Administrations, Contracting Governments and the Committee may establish, in relation to the ASPs seeking their recognition, specific requirements as a condition of recognizing a particular ASP.

6 Communications Service Providers

6.1 Communications Service Providers (CSPs) provide services which link the various parts of the LRIT system using communications protocols in order to ensure the end-to-end secure transfer of the LRIT information. This requirement precludes the use of non-secure broadcast systems.

6.2 A CSP may also provide services as an ASP.

7 LRIT Data Centre

7.1 All LRIT Data Centres should:

- .1 establish and continuously maintain systems which ensure, at all times, that LRIT Data Users are only provided with the LRIT information they are entitled to receive as specified in regulation V/19-1;
- .2 collect LRIT information from ships instructed by their Administrations to transmit the LRIT information to the centre;
- .3 obtain, when requested to provide LRIT information transmitted by ships other than those which transmit the information to the centre, LRIT information from other LRIT Data Centres through the International LRIT Data Exchange;
- .4 make available, when requested to provide LRIT information transmitted by ships which transmit the information to the centre, LRIT information transmitted to the centre to other LRIT Data Centres through the International LRIT Data Exchange;
- .5 execute requests received from LRIT Data Users for polling of LRIT information or for change(s) in the interval(s) of transmission of LRIT information by a ship or a group of ships transmitting the information to the centre;
- .6 relay, when required, requests received from LRIT Data Users through the International LRIT Data Exchange to the other LRIT Data Centres for polling of LRIT information or for change(s) in the interval(s) of transmission of LRIT information by a ship or a group of ships not transmitting the information to the centre;
- .7 execute requests received through the International LRIT Data Exchange from other LRIT Data Centres for polling of LRIT information or for change(s) in the interval(s) of transmission of LRIT information by a ship or a group of ships transmitting the information to the centre;
- .8 upon request disseminate to LRIT Data Users the LRIT information they are entitled to receive in accordance with the agreed arrangements and notify the LRIT Data User and the Administration when a particular ship stops transmitting LRIT information;

- .9 archive LRIT information from ships which transmit the information to the centre, for at least one year and until such time as the Committee reviews and accepts the annual report of the audit of its performance by the LRIT Coordinator. However, the archived LRIT information should provide a complete record of the activities of the centre between two consecutive annual audits of its performance;
- .10 for LRIT information archived within the last 4 days, send the LRIT information within 30 min of receiving a request;
- .11 for LRIT information archived between 4 and 30 days previously, send the LRIT information within 1 h of receiving a request;
- .12 for LRIT information archived more than 30 days previously, send the LRIT information within 5 days of receiving a request;
- .13 ensure using appropriate hardware and software, that LRIT information is backed-up at regular intervals, stored at suitable off-site location(s) and available as soon as possible in the event of disruption to ensure continuity of service;
- .14 maintain a record of the ships which transmit LRIT information to the centre including name of ship, IMO Ship identification number, call sign and Maritime Mobile Service Identity (MMSI);
- .15 use a standard protocol for communications and agreed protocols to connect with the International LRIT Data Exchange and the LRIT Data Distribution Plan server;
- .16 use a standard secure transmission method with the International LRIT Data Exchange and the LRIT Data Distribution Plan server;
- .17 use a secure authentication method with LRIT Data Users;
- .18 use a standard and expandable message format for communicating with the International LRIT Data Exchange and the LRIT Data Distribution Plan server;
- .19 use reliable connections (e.g., TCP) to ensure that the LRIT information is successfully received by the LRIT Data Centres;
- .20 add the appropriate data identified in table 2 to each transmission of LRIT information collect by the centre; and
- .21 have access to the current LRIT Data Distribution Plan and to earlier versions of the plan.

7.2 All LRIT Data Centres should comply with the relevant provisions of the Technical specifications for communications within the LRIT system⁵ and of the Technical specifications for the LRIT Data Distribution Plan and should take into account the relevant provisions of the Technical specifications for the International LRIT Data Exchange.

⁵ Refer to MSC.1/Circ.1259 on Interim revised technical specifications for the LRIT system.

7.3 All Regional or Cooperative LRIT Data Centres and the International LRIT Data Centre should only internally route LRIT information transmitted by ships entitled to fly the flag of the Contracting Governments establishing or participating such centres and should automatically maintain journal(s) for all of the internally routed LRIT information. The journal(s) should only contain message header information which should be used for audit and invoicing purposes. The journal(s) should be transmitted to the International LRIT Data Exchange at regular intervals in order to be combined with the journal(s) maintained by the International LRIT Data Exchange.

7.4 Each LRIT Data Centre should:

- .1 settle its financial obligations *vis-à-vis* the LRIT Data Centres which provide to it LRIT information and the International LRIT Data Exchange in a timely manner in accordance with the arrangements they have agreed;
- .2 publish its charges, in a currency to be decided by the Contracting Government(s) establishing the centre and in Special Drawing Rights (SDR) together with the date(s) as from which the charges are effective, for:
 - .1 providing LRIT information transmitted by the shipborne equipment at preset intervals^{6,7};
 - .2 providing LRIT information transmitted by the shipborne equipment on demand⁸;
 - .3 remotely configuring the shipborne equipment so as to transmit at interval other than the preset⁹ ones and for resetting the shipborne equipment to transmit at preset interval; and
 - .4 providing archived LRIT information which is the LRIT information received from a ship other than the last one,and should update these as and when changes occur; and
- .3 transmit to the International LRIT Data Exchange information on its charges together with the currency they relate to and should update such information as and when changes occur.

7.5 The performance of all LRIT Data Centres should be audited by the LRIT Coordinator.

7.5.1 All LRIT Data Centres should cooperate and make available to the LRIT Coordinator the information required to enable the satisfactory completion of an audit of their performance.

7.5.2 All LRIT Data Centres should settle their financial obligations *vis-à-vis* the LRIT Coordinator in a timely manner in accordance with the arrangements they have agreed.

⁶ Refer to pre-scheduled position reports as defined in Note (2) in Table 1.

⁷ Preset intervals are the intervals specified in paragraph 4.4.

⁸ Refer to on demand reports as defined in Note (1) in Table 1.

⁹ Preset intervals are the intervals specified in paragraph 4.4.

7.6 When providing LRIT information to LRIT Data Users, other than to a SAR service, LRIT Data Centres should:

- .1 in case such information are not archived, utilize the current version of the LRIT Data Distribution Plan;
- .2 in case such information are archived, utilize the version(s) of the LRIT Data Distribution Plan which were applicable at the time the archived LRIT information requested were originally received; and
- .3 apply the geographical areas specified by the Contracting Governments concerned in the LRIT Data Distribution Plan and should not endeavour to resolve any issues which may arise when such areas are either not specified or overlap geographical areas specified by other Contracting Governments.

7.7 Notwithstanding the provisions of paragraph 7.1 and subject to the provisions of paragraph 17.2, all LRIT Data Centres should provide to SAR services, LRIT information transmitted by all ships located within the geographical area specified by the SAR service requesting the information so as to permit the rapid identification of ships which may be called upon to provide assistance in relation to the search and rescue of persons in distress at sea. The LRIT information should be provided irrespective of the location of the geographical area and should be provided even if the geographical area is outside the search and rescue region associated with the SAR service requesting the information (regulation V/19-1.12 refers).

8 National, Regional and Cooperative LRIT Data Centres

8.1 A Contracting Government may establish a National LRIT Data Centre. A Contracting Government establishing such a centre should provide relevant details to the Organization and thereafter should, without undue delay, update the information provided as and when changes occur.

8.2 A group of Contracting Governments may establish either a Regional or a Cooperative LRIT Data Centre. The arrangements for establishing such a centre should be agreed amongst the Contracting Governments concerned. One of the Contracting Governments establishing such a centre should provide relevant details to the Organization and thereafter should, without undue delay, update the information provided as and when changes occur.

8.3 Upon request, National, Regional and Cooperative LRIT Data Centres may provide services to Contracting Governments other than those establishing the centre.

8.3.1 The arrangements for providing services should be agreed between the LRIT Data Centre and the Contracting Government requesting the provision of the services.

8.3.2 The Contracting Government establishing the National LRIT Data Centre or one of the Contracting Governments establishing the Regional or Cooperative LRIT Data Centre should, if the centre provides services to Contracting Governments other than those which established the centre, provide relevant details to the Organization and thereafter should, without undue delay, update the information provided as and when changes occur.

8.4 National, Regional and Cooperative LRIT Data Centres may also serve as a National, Regional or Cooperative Vessel Monitoring System (VMS) and may require, as VMS, the transmission from ships of additional information, or of information at different intervals, or of information from ships which are not required to transmit LRIT information. VMSs may also perform other functions.

8.4.1 If a National, Regional or Cooperative LRIT Data Centre collects additional information from ships, it should transmit only the required LRIT information to the other LRIT Data Centres through the International LRIT Data Exchange.

9 International LRIT Data Centre

9.1 An International LRIT Data Centre recognized by the Committee should be established.

9.2 Contracting Governments not participating in a National, Regional or Cooperative LRIT Data Centre, or Contracting Governments having an interest in the establishment of an International LRIT Data Centre should cooperate, under the coordination of the Committee, with a view to ensuring its establishment.

9.3 Ships, other than those which are required to transmit LRIT information to either a National, Regional or Cooperative LRIT Data Centre, should transmit the required LRIT information to the International LRIT Data Centre.

9.4 An International LRIT Data Centre may, upon request, collect additional information from ships entitled to fly the flag of an Administration on the basis of specific arrangements concluded with the Administration concerned.

9.5 In addition to the provisions of section 7, the International LRIT Data Centre should comply with the provisions of the Technical specifications for the International LRIT Data Centre¹⁰.

10 International LRIT Data Exchange

10.1 An International LRIT Data Exchange recognized by the Committee should be established.

10.2 Contracting Governments should cooperate, under the coordination of the Committee, with a view to ensuring the establishment of the International LRIT Data Exchange.

10.3 The International LRIT Data Exchange should:

- .1 route LRIT information between LRIT Data Centres using the information provided in the LRIT Data Distribution Plan;
- .2 be connected to all LRIT Data Centres and the LRIT Data Distribution Plan server;
- .3 use a store and forward-buffer to ensure LRIT information is received;

¹⁰ Refer to MSC.1/Circ.1259 on Interim revised technical specifications for the LRIT system.

- .4 automatically maintain journal(s) containing message header information only which may be used for:
 - .1 invoicing functions and settlement of invoicing disputes; and
 - .2 audit purposes;
- .5 archive journal(s), for at least one year and until such time as the Committee reviews and accepts the LRIT Coordinator's annual report of the audit of its performance. However, the archived journal(s) should provide a complete record of the activities of the exchange between two consecutive annual audits of its performance;
- .6 receive journal(s) from Regional, Cooperative, and the International LRIT Data Centre and combine these journal(s) with its own journal(s);
- .7 prepare, as necessary, performance related statistical information based on the information contained in the journal(s);
- .8 use a standard protocol for communications agreed protocols to connect to with LRIT Data Centres and the LRIT Data Distribution Plan server;
- .9 use a standard secure access method with the LRIT Data Centres and the LRIT Data Distribution Plan server;
- .10 use a standard and expandable message format for communicating with the LRIT Data Centres and the LRIT Data Distribution Plan server;
- .11 use reliable connections (e.g., TCP) to ensure that the LRIT information is successfully received by the LRIT Data Centres;
- .12 not have the capability to archive LRIT information;
- .13 not have the capability to view or access the LRIT information;
- .14 have access to current LRIT Data Distribution Plan and to earlier versions of the plan; and
- .15 receive information from LRIT Data Centres in relation to the charges they levy when providing LRIT information, create a master list of charges for all LRIT Data Centres and transmit the master list of charges to an LRIT Data Centre on request.

10.4 The International LRIT Data Exchange should comply with the provisions of the Technical specifications for the International LRIT Data Exchange¹¹ and with the relevant provisions of the Technical specifications for communications within the LRIT system and of the Technical specifications for the LRIT Data Distribution Plan.

¹¹ Refer to MSC.1/Circ.1259 on Interim revised technical specifications for the LRIT system.

10.5 The International LRIT Data Exchange should provide to:

- .1 the LRIT Coordinator off-line access to all journals; and
- .2 Contracting Governments and LRIT Data Centres off-line access only to their share of the journals which relates to the LRIT information they have requested and were provided with.

10.6 The performance of the International LRIT Data Exchange should be audited by the LRIT Coordinator.

10.6.1 The International LRIT Data Exchange should cooperate and make available to the LRIT Coordinator the information required to enable the satisfactory completion of an audit of its performance.

10.6.2 The International LRIT Data Exchange should settle its financial obligations *vis-à-vis* the LRIT Coordinator in a timely manner in accordance with the arrangements they have agreed.

11 LRIT Data Distribution Plan

11.1 The Organization should establish and maintain the LRIT Data Distribution Plan. The Organization should also host, build, operate and maintain the LRIT Data Distribution Plan server.

11.2 The LRIT Data Distribution Plan (the plan) should include:

- .1 a list indicating the unique LRIT identities of Contracting Governments, Search and rescue services entitled to receive LRIT information, LRIT Data Centres, the International LRIT Data Exchange, ASPs, the LRIT Data Distribution Plan server and the LRIT Coordinator;
- .2 for the purpose of the implementation of the provisions of regulation V/19-1.8.1, for each Contracting Government a list of geographical coordinates of points, taking into account the related provisions of the Technical specifications for the LRIT Data Distribution Plan¹², based on the WGS 84 datum defining the geographical area:
 - .1 of the waters¹³ landward of the baselines for measuring the breadth of the territorial sea of the Contracting Government concerned in accordance with international law;

¹² Refer to MSC.1/Circ.1259 on Interim revised technical specifications for the LRIT system.

¹³ The baselines for measuring the breadth of the territorial sea of the Contracting Government concerned in accordance with international law, the lines of delimitation between the Contracting Governments concerned and States with adjacent coasts and the coast of the Contracting Government concerned including any landward waters within which any ship which is required to comply with the provisions of regulation V/19-1 is able to navigate.

- .2 of the territorial sea¹⁴ of the Contracting Government concerned in accordance with international law;
 - .3 between the coast of the Contracting Government concerned and a distance of 1,000 nautical miles from its coast. The Contracting Government concerned may, in lieu of defining the aforesaid area with reference to the geographical coordinate points defining its coast, define the area with reference to the geographical coordinate points of the baselines for measuring the breadth of the territorial sea of the Contracting Government concerned in accordance with international law; and
 - .4 within which the Contracting Government concerned is seeking the provision of LRIT information pursuant to the provisions of regulation V/19-1.8.1.3, if other than that defined under subparagraph .3 above;
- .3 for the purpose of the implementation of the provisions of regulation V/19-1.9.1 the following information:
- .1 the name of the Administration (together with its associated unique LRIT identity) which opts to exercise its right under the provisions of regulation V/19-1.9.1;
 - .2 the name(s) of the Contracting Government(s) (together with their associated unique LRIT identities) to which LRIT information about ships entitled to fly the flag of the aforesaid Administration shall not be provided pursuant to the provisions of paragraph V/19-1.8.1.3 together with the date and time as from which the decision of the Administration applies and any particulars thereof stated in the related communication to the Organization;
 - .3 in case of amendment, suspension or annulment such decisions of aforesaid Administration the salient details; and
 - .4 the date and time the Organization has received the related communication, including related amendment, suspension or annulment and the date and time the Organization has informed all Contracting Governments pursuant to the provisions of regulation V/19-1.9.2;
- .4 a list of ports and port facilities located within the territory and a list of places under jurisdiction of each Contracting Government together with the associated geographical coordinates of points (based on WGS 84 datum) in which ships that are required to comply with the provisions of regulation V/19-1 may enter or proceed to;

¹⁴ The baselines for measuring the breadth of the territorial sea and the outer limit of the territorial sea of the Contracting Government concerned in accordance with international law and the lines of delimitation of the territorial sea between the Contracting Governments concerned and States with opposite or adjacent coasts in accordance with international law.

- .5 a list indicating which LRIT Data Centre is collecting and archiving LRIT information for each of the Contracting Governments together with the related LRIT identifies;
- .6 a list indicating the Uniform Resource Locator/Uniform Resource Identifier (URL/URI) (Web Service Endpoint) of each LRIT Data Centre, the International LRIT Data Exchange and the LRIT Data Distribution Plan server;
- .7 a list indicating the ASPs providing services to each LRIT Data Centre together with the related LRIT identifies;
- .8 the contact details of Contracting Governments for LRIT-related matters;
- .9 the contact details of Search and rescue services entitled to receive LRIT information for LRIT-related matters;
- .10 information in relation to the ASPs recognized by each Contracting Governments together with any conditions attached to such recognitions, and their points of contact;
- .11 information in relation to each National, Regional and Cooperative LRIT Data Centre, the International LRIT Data Centre and the International LRIT Data Exchange, and their points of contact;
- .12 information in relation to the LRIT Coordinator, and its contact details;
- .13 information in relation to the LRIT Data Distribution Plan and its server and contact details of official(s) of the Organization who may be contacted for matters relating to the operation or maintenance of the plan or its server or for seeking help in relation to issues relating to or arising from the operation of the plan or its server; and
- .14 maintain a record of all previous versions of the plan together with the dates and times between which each version was in effect.

11.3 The LRIT Data Distribution Plan server should:

- .1 allow the International LRIT Data Exchange, the LRIT Data Centres and the LRIT Coordinator to have access to the current version of the plan;
- .2 provide earlier versions of the LRIT Data Distribution Plan to the International LRIT Data Exchange, the LRIT Data Centres and the LRIT Coordinator upon request;
- .3 use a standard protocol for communications and agreed protocols to connect with the International LRIT Data Exchange and the LRIT Data Centres;
- .4 use a standard secure transmission method with the International LRIT Data Exchange and the LRIT Data Centres;

- .5 use a standard and expandable message format for communicating with the International LRIT Data Exchange and the LRIT Data Centres;
- .6 use reliable connections (e.g., TCP) to ensure that the information in the plan is successfully received by the International LRIT Data Exchange and the LRIT Data Centres;
- .7 use industry standard file compression technology to reduce the size of the plan and its incremental updates when these are downloaded by the International LRIT Data Exchange and the LRIT Data Centres;
- .8 provide for the submission of the geographical areas in a standard industry format and use a consistent naming convention for the elements;
- .9 provide for uploading of the geographical areas in batch files in Geography Markup Language (GML) format;
- .10 maintain a unique number for each published version of the plan, incrementing each time a new version of the plan is published;
- .11 provide for the downloading of the plan and its incremental updates by the LRIT Data Centres and the International LRIT Data Exchange on the publishing of a new version of the plan;
- .12 archive all published versions of the plan and its incremental updates;
- .13 use a standard secure access methods with the Contracting Governments and the LRIT Coordinator; and
- .14 provide a web interface for the entry and amendment of information in the plan.

11.4 The LRIT Data Distribution Plan server should comply with the Technical specifications for LRIT Data Distribution Plan¹⁵ and with the relevant provisions of the Technical specifications for communications within the LRIT system.

12 LRIT system security

12.1 LRIT communications using land-line links should provide for data security using methods such as:

- .1 authorization: Access should only be granted to those who are authorized to see the specific LRIT information;
- .2 authentication: Any party exchanging information within the LRIT system should require authentication before exchanging information;

¹⁵ Refer to MSC.1/Circ.1259 on Interim revised technical specifications for the LRIT system.

- .3 confidentiality: Parties running an application server should protect the confidentiality of the LRIT information to ensure that it is not disclosed to unauthorized recipients when it travels across the LRIT system; and
- .4 integrity: Parties exchanging LRIT information should ensure that the integrity of the LRIT information is guaranteed and that no data has been altered.

13 LRIT system performance

13.1 LRIT information should be available to an LRIT Data User within 15 min of the time it is transmitted by the ship.

13.2 On-demand LRIT information should be provided to an LRIT Data User within 30 min of the time the LRIT Data User requested the information.

13.3 The quality of service:

$$\frac{\text{Number of delivered LRIT information meeting latency requirements}}{\text{Total number of LRIT information requests}} \times 100\%$$

should be:

- .1 95% of the time over any 24-hour period; and
- .2 99% over any 1 month.

14 LRIT Coordinator

14.1 The LRIT Coordinator should be appointed by the Committee.

14.2 The LRIT Coordinator should assist in the establishment of the International LRIT Data Centre and/or International LRIT Data Exchange by:

- .1 participating in the development of any new technical specifications for the LRIT system or of any amendments to existing ones taking into account the provisions of regulation V/19-1, the present performance standards, the existing technical specifications and any related decisions of the Committee;
- .2 issuing, when requested by the Committee, requests for the submission of proposals for the establishment and operation of the International LRIT Data Centre and/or the International LRIT Data Exchange;
- .3 evaluating the management, operational, technical and financial aspects of the proposals received taking into account the provisions of regulation V/19-1, the present performance standards, the technical specifications for the LRIT system and any other related decisions of the Committee and submitting its recommendations in this respect for consideration by the Committee; and
- .4 participating, as and when requested by the Committee, in their testing and integration into the LRIT system and reporting its findings in this respect for consideration by the Committee.

14.3 The LRIT Coordinator should, taking into account the provisions of regulation V/19-1, the present performance standards, the technical specification for the LRIT system and any related decisions of the Committee:

- .1 upon request, of any party concerned or the Committee, undertake the investigation of operational or technical disputes or invoicing difficulties and make recommendations for their settlement to the parties concerned and the Committee, as appropriate;
- .2 participate, as and when requested by the Committee, in the testing and integration of LRIT Data Centre(s) into the LRIT system and report its finding in this respect for consideration by the Committee; and
- .3 participate, as and when requested by the Committee, in the testing of new or modified procedures or arrangements for communications between the International LRIT Data Exchange, the LRIT Data Centres and the LRIT Data Distribution Plan server and report its finding in this respect for consideration by the Committee.

14.4 The LRIT Coordinator should undertake a review of the performance of the LRIT system taking into account the provisions of regulation V/19-1, the present performance standards, the technical specification for the LRIT system and any related decisions of the Committee and should report its findings to the Committee at least annually. In this respect, the LRIT Coordinator should on an annual basis:

- .1 review the performance of ASPs (or CSPs when they act as ASPs) providing services to the International LRIT Data Centre;
- .2 audit the performance of all LRIT Data Centres based on archived information and their fee structures;
- .3 audit the performance of the International LRIT Data Exchange and its fee structure, if any; and
- .4 verify that Contracting Governments and Search and rescue services receive only the LRIT information they have requested and are entitled to receive.

14.5 In addition to reporting to the Committee on the performance of the LRIT system including any identified non-conformities, the LRIT Coordinator may make recommendations to the Committee, based on an analysis of its findings, with a view to improving the efficiency, effectiveness and security of the LRIT system.

14.6 The LRIT Coordinator should, for the purpose of performing the functions specified in paragraphs 14.2.4 and 14.3 to 14.5:

- .1 be given the required level of access, by the LRIT Data Centres and the International LRIT Data Exchange, to management, and to charging, technical and operational data;
- .2 collect and analyse samples of LRIT information provided to LRIT Data Users;

- .3 collect and analyse statistics compiled by LRIT Data Centres and the International LRIT Data Exchange; and
- .4 be given access to the current LRIT Data Distribution Plan and to earlier versions of the plan.

14.7 The LRIT Coordinator should establish and communicate to the Committee the charges it would be levying in order to recover the expenditure it incurs for providing the services specified in paragraphs 14.2 to 14.5.

14.7.1 The related charges should be paid to the LRIT Coordinator in accordance with agreed arrangements – taking into account the laws of the Contracting Government(s) concerned – as follows:

- .1 in relation to the evaluation of proposals for the establishment of the International LRIT Data Centre and/or the International LRIT Data Exchange (paragraph 14.2.3), by those submitting the related proposals;
- .2 when participating in the testing and integration of the International LRIT Data Centre and/or the International LRIT Data Exchange into the LRIT system (paragraph 14.2.4), by the International LRIT Data Centre and/or the International LRIT Data Exchange as the case may be;
- .3 when undertaking the investigation of operational or technical disputes or invoicing difficulties (paragraph 14.3.1) by the party requesting the service;
- .4 when participating in the testing and integration of LRIT Data Centre(s) into the LRIT system (paragraph 14.3.2) by the LRIT Data Centre(s) being tested or integrated;
- .5 when participating in the testing of new or modified procedures or arrangements for communications between the International LRIT Data Exchange, the LRIT Data Centres and the LRIT Data Distribution Plan server (paragraph 14.3.3), by the International LRIT Data Exchange and/or the LRIT Data Centre(s);
- .6 when reviewing the performance of ASPs (or CSPs when they act as ASPs) providing services to the International LRIT Data Centre (paragraph 14.4.1), by the ASPs concerned;
- .7 when auditing the performance and fee structures of LRIT Data Centres (paragraph 14.4.2), by the LRIT Data Centre concerned; and
- .8 when auditing the performance and fee structure of the International LRIT Data Exchange (paragraph 14.4.3), by the International LRIT Data Exchange.

14.7.2 The Organization should not be required to make any payments to the LRIT Coordinator for any work the LRIT Coordinator may be required to carry out pursuant to any of the provisions of paragraphs 14.2 to 14.5; or for reporting or making recommendations to the Committee pursuant to any of the provisions of paragraphs 14.2 to 14.5.

14.7.3 Contracting Governments should not be responsible for making any direct payments to the LRIT Coordinator for the services it may be required to provide pursuant to any of the provisions of paragraphs 14.2 to 14.5. However, without prejudice as to the relations between Contracting Governments and the LRIT Data Centres the services of which may use, Contracting Governments may be required by LRIT Data Centres to pay fees for the LRIT information they request and receive which may contain elements to offset the charges paid by LRIT Data Centres to the LRIT Coordinator for the functions it performs. Notwithstanding the aforesaid, the Contracting Government which requests directly from the LRIT Coordinator the provision of a specific service should pay the LRIT Coordinator the relevant charges for the service it has requested.

15 Administrations

15.1 Each Administration should decide to which LRIT Data Centre ships entitled to fly its flag are required to transmit LRIT information.

15.2 Each Administration should provide to the selected LRIT Data Centre the following information for each of the ships entitled to fly its flag which is required to transmit LRIT information:

- .1 name of ship;
- .2 IMO Ship identification number;
- .3 call sign; and
- .4 Maritime Mobile Service Identity.

15.3 Upon the transfer of the flag of a ship which is required to transmit LRIT information from another State, the Administration whose flag the ship is now entitled to fly should provide, without undue delay, to the selected LRIT Data Centre in addition to the information specified in paragraph 15.2 the following information:

- .1 the effective date and time (UTC) of transfer; and
- .2 the State whose flag the ship was formally entitled to fly, if known.

15.4 Administrations should, without undue delay, update the LRIT Data Centre as and when changes to the information they have provided under paragraphs 15.2 and 15.3 occur.

15.5 Upon the transfer of the flag of a ship which is required to transmit LRIT information to another State or when the ship is to be taken permanently out of service, the Contracting Government of the State whose flag the ship was entitled to fly hitherto should provide, without undue delay, to the LRIT Data Centre the following information:

- .1 name of ship;
- .2 IMO Ship identification number;

- .3 the effective date and time (UTC) of the transfer, or when the ship was, or will be, taken permanently out of service; and
- .4 the State to which the flag of the ship has been transferred, if known.

15.6 Administrations should either provide the ASP(s) they recognize with relevant information taking into account the provisions of 15.2 to 15.5 or should make the necessary arrangements for the aforesaid information to be provided to the ASP(s) concerned by the selected LRIT Data Centre.

16 Contracting Governments

16.1 Each Contracting Government should:

- .1 obtain the LRIT information to which it is entitled to under the provisions of regulation V/19-1, and has requested, from the LRIT Data Centre designated under paragraph 15.1. Contracting Governments which have no ships entitled to fly their flag may receive the LRIT information they are entitled to under the provisions of regulation V/19-1 from any one of the LRIT Data Centres but should select one LRIT Data Centre from which they wish to receive the information. In such cases the Contracting Government concerned should, after reaching agreement with the LRIT Data Centre the services of which it would be using, inform accordingly the Organization and, without undue delay, update the information they have provided as and when changes;
- .2 if it wishes to receive LRIT information pursuant to the provisions of regulation V/19-1.8.1.1, indicate to the LRIT Data Centre the criteria for receiving such information. If so decided the Contracting Government may give the LRIT Data Centre a standing order regarding the criteria for receiving LRIT information;
- .3 if it wishes to receive LRIT information pursuant to the provisions of regulation V/19-1.8.1.2, indicate to the LRIT Data Centre the name and the IMO Ship identification number of the particular ship and either:
 - .1 the distance from a port; or
 - .2 a point in time,from when it requires the provision of LRIT information transmitted by the ship. If so decided the Contracting Government may give the LRIT Data Centre a standing order regarding the criteria for receiving LRIT information. If the standing order is a distance from a port, the Contracting Government also has to inform the centre of the name of the port each ship is proceeding to;
- .4 if it wishes to receive LRIT information pursuant to the provisions of regulation V/19-1.8.1.3, indicate the distance from its coast within which it requires the provision of LRIT information transmitted by ships. If so decided, the Contracting Government may give the LRIT Data Centre a standing order regarding the criteria for receiving LRIT information;

- .5 cooperate with a view of resolving any issues in connection with which flag a particular ship is entitled to fly; and
- .6 ensure either the destruction of all received LRIT information which is no longer in use or their archiving in a secure and protected manner.

16.2 In accordance with regulation V/19-1.8.2, Contracting Governments are obliged to communicate to the Organization and enter into the LRIT Data Distribution Plan the information specified in paragraph 11.2 and thereafter update such information as and when changes occur before requesting the provision of LRIT information pursuant to the provisions of regulation V/19-1.8.1.

16.3 Contracting Governments are advised that the LRIT system would not apply any restrictions pursuant to the provisions of either regulations V/19-1.8.2 and V/19-8.1.3 in relation to ships located within the waters landward of baselines or regulation V/19-18.1.4 in relation to ships located within territorial seas until such time that they have communicated to the Organization and provided in the LRIT Data Distribution Plan the required information.

17 Search and rescue services

17.1 Subject to the provisions of paragraph 7.7, search and rescue service when it wishes to receive LRIT information pursuant to the provisions of regulation V/19-1.12 should indicate to the LRIT Data Centre the criteria for receiving such information.

17.2 A Search and rescue service should request the provision of LRIT information only via the LRIT Data Centre serving the Contracting Government in whose territory the service is located.

17.3 Subject to the provisions of the national legislation of the Contracting Government concerned, search and rescue services should provide information when requested by the LRIT Coordinator to enable the holistic review of the performance of the LRIT system and for the investigation of any disputes.



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MSC.1/Circ.1256
5 June 2008

GUIDANCE ON THE IMPLEMENTATION OF THE LRIT SYSTEM

1 The Maritime Safety Committee (the Committee), at its eighty-fourth session (7 to 16 May 2008), for the benefit of SOLAS Contracting Governments and Administrations and, in particular, of those involved in the initial implementation of the LRIT system, approved the Guidance on the implementation of the LRIT system (the Guidance), as set out in the annex.

2 The Guidance identifies the primary duties and obligations of SOLAS Contracting Governments and Administrations at the initial establishment of the LRIT system and should be read together with SOLAS regulation V/19-1 and the Revised performance standards and functional requirements for the long-range identification and tracking of ships adopted by resolution MSC.263(84).

3 The Committee also agreed to keep the Guidance under review and to amend it as and when the circumstances so warrant.

4 SOLAS Contracting Governments are invited to bring the present circular and its annex to the attention of those engaged in implementation of the provisions of SOLAS regulation V/19-1 and/or the development and establishment of their LRIT Data Centres and/or the initial establishment of the LRIT system.

5 The United States, having agreed to provide the International LRIT Data Exchange on an interim basis, is invited to bring the present circular to the attention of the International LRIT Data Exchange.

6 SOLAS Contracting Governments are also invited to bring the present circular and the salient parts of its annex to the attention of Companies operating ships entitled to fly their flag which are required to transmit LRIT information and to provide to such Companies any necessary further guidance and instruction so as to ensure that the objectives of this circular are achieved.

7 SOLAS Contracting Governments, international organizations, non-governmental organizations with consultative status, the LRIT Coordinator, LRIT Data Centres acting through the SOLAS Contracting Government(s) which have established them and the International LRIT Data Exchange, are also invited to bring to the attention of the Committee, at the earliest opportunity, the results of the experience gained from the use of the Guidance for consideration of action to be taken.

ANNEX

GUIDANCE ON THE IMPLEMENTATION OF THE LRIT SYSTEM

1 Purpose

1.1 This note summarizes the various aspects of the LRIT system with a view to enabling Contracting Governments¹ to implement the system and to ensure the timely compliance of the ships² entitled to fly their flag with the obligation to transmit LRIT information.

1.2 In addition, this note provides salient information which would enable Companies operating ships which are required to comply with the obligation to transmit LRIT information to ensure the survey and certification of their compliance in a timely manner.

2 Related documents

2.1 This note should always be read together with regulation³ V/19-1 and the Revised performance standards and functional requirements for the Long-range identification and tracking of ships⁴ (Revised performance standards).

2.2 Additional information is provided in:

- .1 MSC.1/Circ.1257 on Guidance on the survey and certification of compliance of ships with the requirement to transmit LRIT information; and
- .2 MSC.1/Circ.1258 on Guidance to Search and rescue services in relation to requesting and receiving LRIT information.

3 Overview of the LRIT system

3.1 The LRIT system provides for the global identification and tracking of ships.

3.2 The LRIT system consists of the shipborne LRIT information transmitting equipment, the Communication Service Provider(s), the Application Service Provider(s), the LRIT Data Centre(s), including any related Vessel Monitoring System(s), the LRIT Data Distribution Plan and the International LRIT Data Exchange. Certain aspects of the performance of the LRIT system are reviewed or audited by an LRIT Coordinator acting on behalf of all Contracting Governments.

3.3 LRIT information is provided to Contracting Governments and Search and rescue services⁵ entitled to receive the information, upon request, through a system of National, Regional, Cooperative and International LRIT Data Centres, using where necessary, the International LRIT Data Exchange.

¹ *Contracting Government* means a Contracting Government to the International Convention for the Safety of Life at Sea, 1974, as amended.

² *Ship* refers to ships, high-speed craft and mobile offshore drilling units which are required to comply with the provisions of regulation V/19-1.

³ *Regulation* means a regulation of the International Convention for the Safety of Life at Sea, 1974, as amended.

⁴ Adopted by resolution MSC.263(84).

⁵ The term *search and rescue services* is defined in regulation V/2.5.

3.4 The obligations of ships to transmit LRIT information and the rights and obligations of Contracting Governments and of Search and rescue services to receive LRIT information are established in regulation V/19-1 of the 1974 SOLAS Convention.

4 LRIT Data Centres

4.1 General

4.1.1 Paragraph 15.1 of the Revised performance standards states that each Administration should decide to which LRIT Data Centre ships entitled to fly its flag are required to transmit LRIT information.

4.1.2 Paragraph 16.1 of the Revised performance standards states that each Contracting Government should obtain the LRIT information to which it is entitled to under the provisions of regulation V/19-1, and has requested, from the LRIT Data Centre designated under paragraph 15.1. Contracting Governments which have no ships entitled to fly their flag may receive the LRIT information they are entitled to under the provisions of regulation V/19-1 from any of the LRIT Data Centres but should select one LRIT Data Centre from which they wish to receive the information and should provide related information to the Organization.

4.1.3 Thus each Contracting Government should either establish or participate in the establishment of an LRIT Data Centre or conclude an agreement with an LRIT Data Centre which is prepared to provide services to it as an LRIT Data Centre.

4.2 National LRIT Data Centre

4.2.1 A Contracting Government establishing a National LRIT Data Centre should provide relevant details to the Organization as soon as possible and well before 31 December 2008 and thereafter should, without undue delay, update the information provided as and when changes occur.

4.2.2 In addition and in accordance with paragraph 8.3.2 of the Revised performance standards, the Contracting Government establishing a National LRIT Data Centre should, if the centre provides services to Contracting Governments other than those which established the centre, provide relevant details to the Organization as soon as possible and well before 31 December 2008 and thereafter should, without undue delay, update the information provided as and when changes occur.

4.3 Regional or Cooperative LRIT Data Centre

4.3.1 One of the Contracting Governments establishing a Regional or Cooperative LRIT Data Centre should provide relevant details to the Organization as soon as possible and well before 31 December 2008 and thereafter should, without undue delay, update the information provided as and when changes occur.

4.3.2 In addition and in accordance with paragraph 8.3.2 of the Revised performance standards one of the Contracting Governments establishing a Regional or Cooperative LRIT Data Centre should, if the centre provides services to Contracting Governments other than those which established the centre, provide relevant details to the Organization as soon as possible and well before 31 December 2008 and thereafter should, without undue delay, update the information provided as and when changes occur.

4.4 Contracting Governments other than those establishing National, Regional or Cooperative LRIT Data Centres

4.4.1 Contracting Governments other than those establishing National, Regional or Cooperative LRIT Data Centres are strongly advised to take action so as to conclude an agreement with an LRIT Data Centre as soon as possible and well before 31 December 2008. Paragraphs 4.4.2 and 5.4.3 below expand on some of the reasons which may delay or make impossible the conclusion of such agreements. Paragraph 4.4.4 cites one of the likely adverse consequences of the non identification of the LRIT Data Centre the services of which are to be used may lead to.

4.4.2 Upon request, National, Regional and Cooperative LRIT Data Centres may provide services to Contracting Governments other than those establishing the centre. Although paragraph 8.3.1 of the Revised performance standards states that the arrangements for providing such services should be agreed between the LRIT Data Centre and the Contracting Government requesting the provision of the services, such agreements may be subject to the agreement, approval, acceptance or concurrence of the Contracting Government(s) establishing the centre. In addition, the LRIT Data Centre would need to put in place and test, before 31 December 2008, the necessary arrangements for providing to the Contracting Government requesting the provision of the services as such arrangements may have implications on the systems of the centre.

4.4.3 Notwithstanding the provisions of paragraph 8.3.2 of the Revised performance standards Contracting Governments other than those establishing National, Regional or Cooperative LRIT Data Centres should provide to the Organization as soon as possible and well before 31 December 2008 information in relation to the LRIT Data Centre it would be using for obtaining LRIT information and thereafter should, without undue delay, update the information provided as and when changes occur.

4.4.4 Contracting Governments other than those establishing National, Regional or Cooperative LRIT Data Centres are advised that unless they provide to the Organization information in relation to the LRIT Data Centre they would be using for obtaining LRIT information, their SAR services would be unable to request and receive LRIT information for the search and rescue of persons in distress at sea.

4.5 Settlement of financial obligations

4.5.1 Each LRIT Data Centre should settle its financial obligations *vis-à-vis* the LRIT Data Centres which provide to it LRIT information in a timely manner in accordance with the arrangements they have agreed.

5 Application Service Providers

5.1 General

5.1.1 Paragraphs 5.1.1 and 5.1.2 of the Revised performance standards state that Contracting Governments should recognize the Application Service Providers (ASPs) providing services to the LRIT Data Centre and paragraph 5.2 states that Contracting Governments should provide to the Organization a list with the names and contact details of the ASPs they recognize together with any associated conditions of recognition and thereafter should, without undue delay, update the Organization as changes occur.

5.1.2 Contracting Governments should note that in all cases ASPs may require the conclusion of relevant agreement(s) between them and the Contracting Government(s) seeking to recognize them and/or the LRIT Data Centre to which they will be providing services.

5.2 Contracting Governments establishing National LRIT Data Centres

5.2.1 Contracting Governments establishing a National LRIT Data Centre should decide which ASP(s) is to provide the required services to the centre; should recognize them in accordance with their national practice; and should communicate to the Organization the required information as soon as possible and well before 31 December 2008 and thereafter should, without undue delay, update the information provided as and when changes occur.

5.3 Contracting Governments establishing Regional or Cooperative LRIT Data Centres

5.3.1 Paragraph 5.1.2 of the Revised performance standards states that in the case of Regional and Cooperative LRIT Data Centres the arrangements for recognizing the ASP(s) should be agreed amongst the Contracting Governments establishing or participating in the establishment of the centre.

5.3.2 Contracting Governments establishing Regional or Cooperative LRIT Data Centre should decide which ASP(s) are to provide the required services to the centre; should recognize them in accordance with their national practice; and should communicate to the Organization the required information as soon as possible and well before 31 December 2008 and thereafter should, without undue delay, update the information provided as and when changes occur.

5.3.3 Notwithstanding the provisions of paragraph 5.2 of the Revised performance standards which stipulates that each Contracting Government should communicate to the Organization information in relation to the ASPs it recognizes and taking into account that, in accordance with paragraph 8.2 of the Revised performance standards, one of the Contracting Governments establishing Regional or Cooperative LRIT Data Centres should provide relevant details to the Organization and thereafter should, without undue delay, update the information provided as and when changes occur, in lieu of each of the Contracting Governments establishing Regional or Cooperative LRIT Data Centres communicating individually to the Organization information in relation to the ASPs it recognizes, one of the Contracting Governments establishing such centres may, acting on behalf of the others, communicate to the Organization the relevant information and update the information provided as and when changes occur.

5.4 Contracting Governments other than those establishing National, Regional or Cooperative LRIT Data Centres

5.4.1 Contracting Governments other than those establishing National, Regional or Cooperative LRIT Data Centres should agree with the LRIT Data Centre the services of which they would be using the ASP(s) which is to provide the required services as far as the ships which are entitled to fly their flag.

5.4.2 In accordance with the Revised performance standards the selection of which ASPs are to provide services to an LRIT Data Centre is the prerogative of the Contracting Governments establishing the centre.

5.4.3 Contracting Governments other than those establishing National, Regional or Cooperative LRIT Data Centres should note that they may not be able to require the LRIT Data Centre the services of which they would be using to use an ASP of their choice in cases where such an ASP is not one of the ASP(s) which are recognized by the Contracting Government(s) establishing the centre. In addition, although the centre may be prepared to accommodate such requests its decision may be subject to the agreement of the Contracting Government(s) establishing the centre.

5.4.4 Contracting Governments other than those establishing National, Regional or Cooperative LRIT Data Centres, after they have reached an agreement with the LRIT Data Centre the services of which they would be using in relation to the ASP(s) which is to provide the required services as far as the ships entitled to fly their flag, should recognize the ASPs in accordance with their national practice; and should communicate to the Organization the required information as soon as possible and well before 31 December 2008 and thereafter should, without undue delay, update the information provided as and when changes occur. The obligation to recognize the ASP(s) and to communicate to the Organization related information is not in any way waived or altered by the fact that the ASP(s) may be the same as those recognized by the Contracting Government(s) establishing the centre.

6 Communication Service Providers

6.1 General

6.1.1 Contracting Governments are not required to recognize the Communication Service Provider(s) (CSPs) or to communicate to the Organization any information relating to the CSPs which are handling the LRIT information transmitted by ships entitled to fly their flag.

6.1.2 Contracting Government should note that although the provisions of the Revised performance standards do not expressly state so, as the CSPs provide the communication services which link the shipborne equipment transmitting LRIT information with the ASPs, the CSPs need to be able to interface with the system used by the ASPs in providing the required services and thus is a matter to be decided by the ASPs.

7 Administrations

7.1 General

7.1.1 Administrations should, as soon as possible and well before 31 December 2008, provide to:

- .1 Companies and owners of ships entitled to fly their flag relevant guidance on all pertinent LRIT-related matters and in particular information in relation to the LRIT Data Centre to which ships should transmit LRIT information, the ASPs they have recognized within the framework of the Revised performance standards, the ASPs they have authorized to carry out conformance tests and the survey and certification of the compliance of ships with the provisions of regulation V/19-1 and the Revised performance standards; and
- .2 Recognized Organizations which may be authorized to survey and certify the compliance of the ships entitled to fly their flag with the requirements of regulation V/19-1 and the Revised performance standards, relevant instructions including information in relation to the ASPs they have recognized,

and thereafter should, without undue delay, update the information provided.

7.1.2 Administrations should, as soon as possible and well before 31 December 2008, provide to the LRIT Data Centre they have decided to use the information specified in paragraph 15.2 of the Revised performance standards in relation to the ships which are entitled to fly their flag.

7.1.2.1 However, in doing so Administrations should note that in simplified terms regulation V/19-1.4.1 specifies that ships constructed on or after 31 December 2008 shall transmit LRIT information as from the date they enter service and for ships constructed before 31 December 2008 provides a phased-in implementation schedule which is dependant, *inter alia*, on the date on which the first survey of the radio installation of the ship becomes due after 31 December 2008 and in the case of ships which operate exclusively in sea area A4 after 1 July 2009. Thus for ships constructed before 31 December 2008:

- .3 other than those operating exclusively within sea area A4, the phased-in implementation would end on 31 December 2009. However, in such cases if the Contracting Government is also a State Party to the 1988 SOLAS Protocol the phased in implementation would end on 31 March 2010; and
- .4 operating exclusively within sea area A4, the phased-in implementation would end on 1 July 2010. However, in such cases if the Contracting Government is also a State Party to the 1988 SOLAS Protocol the phased-in implementation would end on 1 October 2010.

7.1.2.2 As a result, for ships constructed before 31 December 2008, Administrations may opt, subject to the arrangements to be agreed with the LRIT Data Centre concerned, to provide the information specified in paragraph 15.2 of the Revised performance standards in stages at agreed periodical intervals which ensure that the centre is provided with the information in a timely manner. During the initial implementation of the LRIT system such an arrangement may prove to be beneficial for the Administration and the centre concerned especially if a large number of ships are involved or ships are likely to be transferred to the flag of another Contracting Government or another State during the period of the phased-in implementation.

7.1.3 Subject to the provisions of paragraph 7.1.2.2, Administrations are advised to provide the information specified in paragraph 15.2 of the Revised performance standards to the ASPs they recognize within the framework of the Revised performance standards, and to the ASPs they have authorized to carry out conformance tests. The ASPs, in order to provide the required services, may require additional information for example the shipborne equipment identifier for each of the ships which will be transmitting LRIT information through them to an LRIT Data Centre or other technical details of the shipborne equipment to be used for the transmission of LRIT information. In such cases the Administration should either provide the required information or should direct Companies operating ships entitled to fly its flag to provide to the ASPs the relevant information.

7.1.4 Administrations should comply at all times with the provisions of paragraphs 15.3 to 15.5 of the Revised performance standards and should communicate to the LRIT Data Centre and to ASPs concerned the related information in a timely manner.

7.1.5 The communication of information by an Administration to Recognized Organizations acting on its behalf in relation to matters which fall within the scope of the provisions of paragraphs 15.3 to 15.5 of the Revised performance standards is outside the scope of this guidance and remains subject to the arrangements agreed between the Administration and the Recognized Organizations concerned.

7.1.6 Administrations should provide to Recognized Organizations acting on its behalf relevant instructions in relation to the survey and certification of ships which are entitled to fly their flag.

7.2 *Transfer of flag*

7.2.1 Contracting Governments should have in place directions to Companies which plan to transfer a ship they operate to its flag which ensure that they are promptly advised by the Companies concerned when a ship is to be transferred.

7.2.1.1 In such cases the Contracting Government concerned should provide to the LRIT Data Centre and to the ASP concerned the information specified in paragraphs 15.2 and 15.4 of the Revised performance standards in a timely manner so as to enable the integration of the ship into the LRIT system and the survey and certification of its compliance.

7.2.2 Administrations should have in place directions to Companies operating ships entitled to fly their flag which ensure that they are promptly advised by Companies when a ship entitled to fly their flag is to be transferred to the flag of another Contracting Government or another State or when the ship is to be taken permanently out of service.

7.2.2.1 In such cases the Administration concerned should promptly provide to the LRIT Data Centre and to the ASP concerned the information specified in paragraph 15.5 of the Revised performance standards.

7.2.2.2 In cases where a ship is to be transferred to the flag of another Contracting Government, the Administration concerned should promptly issue the required direction so as to ensure the timely decommissioning of the shipborne equipment and thus enable the ship concerned to commence transmitting LRIT information to the LRIT Data Centre which has been identified by the Contracting Government whose flag the ship will be entitled to fly.

8 Contracting Governments

8.1 Communication of information to the Organization

8.1.1 Contracting Governments should, as soon as possible and well before 31 December 2008, communicate to the Organization and enter into the LRIT Data Distribution Plan the required information so as to enable the timely establishment of the LRIT system and thereafter should, without undue delay, update the information provided as and when changes occur so as to enable the continuous efficient functioning of the LRIT system.

8.1.2 The Contracting Governments have agreed that the LRIT system should use simplified geographical areas⁶ when processing requests for the provision of LRIT information pursuant to the provisions of regulation V/19-1.8.1. The agreed caveats to be posted on the LRIT Data Distribution Plan are set out in the Appendix.

8.2 Instructions to LRIT Data Centres in relation to the LRIT information requested

8.2.1 Contracting Governments should as soon as possible and well before 31 December 2008, provide to the LRIT Data Centres they are establishing or the services of which they will be using instructions in relation to the LRIT information they wish to receive taking into account the provisions of regulation V/19-1.8.1 and paragraphs 16.2 to 16.4 of the Revised performance standards and thereafter should update the instructions as the need arises.

8.3 Settlement of financial obligations

8.3.1 Each Contracting Government should settle its financial obligations *vis-à-vis* the LRIT Data Centres which provide to it LRIT information in a timely manner in accordance with the arrangements they have agreed.

9 Companies

9.1 Survey and certification of compliance of ships

9.1.1 Companies, with a view to ensuring the timely compliance of the ships they operate with the provisions of regulation V/19-1, should make the necessary arrangements for the conduct of the conformance tests set out in MSC.1/Circ.1257 well ahead of the date on which the survey of the radio installation, which determines the date on which the ship is required to comply with the provisions of regulation V/19-1, becomes due.

9.1.2 Such an approach would enable the Companies to identify whether the shipborne equipment is capable of transmitting LRIT information and if not to make the necessary arrangements for the rectification of any hardware or software deficiencies.

9.1.3 The conformance tests should be conducted by the ASPs which the Administration has recognized within the framework of the Revised performance standards and through which the ship will be transmitting LRIT information to the LRIT Data Centre identified by the Administration or the ASPs they have authorized to carry out conformance tests.

⁶ The related guidance and associated constraints are specified in section 7 of part I of the Technical specifications for the LRIT Data Distribution Plan which are set out in the annex to MSC.1/Circ.1259 on Interim revised technical specifications for the LRIT system.

9.2 *Transfer of flag*

9.2.1 When a ship operated by the Company is to be transferred to the flag of another Contracting Government, the Company should:

- .1 promptly provide to the Administration the information specified in paragraph 15.5 of the Revised performance standards so as to enable the Administration to provide to the LRIT Data Centre and the ASP the required information in a timely manner;
- .2 promptly provide to the Contracting Government to whose flag the ship would be transferred the information specified in paragraphs 15.2 and 15.3 of the Revised performance standards so as to enable the Contracting Government to provide to the LRIT Data Centre and the ASP the required information in a timely manner; and
- .3 settle all outstanding or pending matters so as to enable the timely decommissioning of the shipborne equipment and enable the ship concerned to commence transmitting LRIT information to the LRIT Data Centre which has been identified by the Contracting Government whose flag the ship will be entitled to fly.

9.2.2 When a ship operated by the Company is to be transferred to the flag of another State or when the ship is to be taken permanently out of service, the Company should promptly provide to the Administration the information the Administration has specified so as to enable the Administration concerned to provide to the LRIT Data Centre and the ASP the required information in a timely manner.

10 **Port State Notice of Arrival**

10.1 Administrations wishing to engage in verifications of Notices of Arrival tendered by ships entitled to fly their flag to a port State in order to enable the port State concerned to initiate the process of tracking a specific ship proceeding to its port, should instruct the ships entitled to fly their flag to transmit a copy of the Notice of Arrival they tender to a port State to the LRIT Data Centre to which the ship is transmitting LRIT information. In this manner it would be up to each Administration, if it so wished, to validate the requests of any Contracting Government for the provision of LRIT information as a port State.

11 **Ship not transmitting due to outside failure of the LRIT system**

11.1 When the LRIT information transmitted by a ship cannot be received by those entitled to receive such information, for example a Contracting Government as a port State, due to a failure or a situation outside the control of the ship, for example:

- .1 due to a failure of the CSP or the ASP or of the LRIT Data Centre; or
- .2 because the Administration has not made the any necessary arrangements; or

- .3 because the LRIT Data Centre to which the ship is transmitting LRIT information is declining to provide the requested LRIT information to the LRIT Data Centre it is requesting them due to their financial disputes,

in view of the fact that the failure or the situation is outside of the control of the ship, Contracting Governments should not impose sanctions on the ship because they are unable to receive LRIT information transmitted by the ship.

11.2 As matters are beyond the control of the ship, no grounds arise for either delaying or detaining the ship pursuant to the provisions of regulations I/19 and V/16 as long as the Conformance test report and related radio certificate are valid. However, it is possible that a Contracting Government, unaware of the circumstances, might decide to impose control measures or steps pursuant to regulation XI-2/9. To avoid such action it would be advisable for the ship to notify the port State of the situation. However, for doing so the ship needs to be made aware of the failure of the system or the circumstances involved. Those causing the failure of the system or those involved in the prevailing situation should advise the ship accordingly if the duration of the failure is expected to exceed for example 6 hours and when the ship was being polled or is providing information on demand. Administrations should consider the issue and determine the maximum duration of such failure beyond which the ship would need to inform the Contracting Governments concerned.

11.3 The question of imposition of any sanctions under the laws of the Administration is an internal issue for the Contracting Government concerned. However, it is expected that Administrations should show a reasonable understanding of the circumstances.

12 Ship undergoing repairs, modifications or conversions in dry-dock or in port or laid up for a long period

12.1 Paragraph 4.4.1 of the Revised performance standards provides that when a ship is undergoing repairs, modifications or conversions in dry-dock or in port or is laid up for a long period, the master or the Administration may reduce the frequency of the transmission LRIT information to one transmission every 24-hour period, or may temporarily stop the transmission of such information.

12.2 In such cases, the master when taking such action should notify the Administration and the authorities of the port State accordingly. In addition, the master should make an appropriate entry in the record of navigation activities and daily reporting required by regulation V/28 indicating the date and time the transmission of LRIT information was suspended and resumed.

12.3 It should be noted that, depending on the duration of the suspension of the transmission of LRIT information, the apparent savings to be realized may be less than the cost and charges incurred as a result of consequence in terms of communication services.

12.4 It is highly advisable that, instead of suspending the transmission of LRIT information, to reduce the transmission rate to one every 24 hours and thus also leave the ship integrated in the LRIT system.

Appendix

CAVEATS TO BE POSTED ON THE LRIT DATA DISTRIBUTION PLAN

The Contracting Governments to the International Convention for the Safety of Life at Sea, 1974 as amended have agreed, solely for the convenience and the efficient functioning of the LRIT system and in order to enable the provision of the LRIT information they are entitled to request and receive, that, in lieu of providing precise geographical coordinate points defining waters landward of the baselines and/or the territorial sea they have established in accordance with international law, to provide instead simplified approximations of waters on the landward side of the baselines which are navigated by ships which are required to comply with the provisions of regulation V/19-1 and of the territorial sea and of their coastlines.

The geographical information provided in the LRIT Data Distribution Plan are unilateral declarations of the Contracting Governments concerned and have been entered or uploaded by Contracting Governments themselves or have been entered or uploaded by the Secretariat on the expressed request of the Contracting Government concerned.

The geographical information so provided does not imply any right or obligation of individual Contracting Government other than for the sole purpose of complying with provisions of regulation V/19-1. Their use by the LRIT system does not constitute any form of recognition or acceptance by the other Contracting Governments.

The geographical information provided shall not be interpreted or considered as supporting or prejudicing the position of Contracting Governments in relation to land or maritime claims or land or maritime sovereignty disputes.

The Contracting Governments have further agreed that none of the data or information provided in relation to the geographical areas defined in the LRIT Data Distribution Plan shall prejudice the rights, jurisdiction or obligations of States under international law, in particular relating to, the continental shelf, the legal regimes of the high seas, the exclusive economic zone, the contiguous zone, the territorial seas, internal waters or the straits used for international navigation and archipelagic sea lanes.

The International Maritime Organization is making available through the LRIT Data Distribution Plan server the geographical information provided by the Contracting Government at their request and this does not imply the expression of any opinion whatsoever on the part of the Secretariat of the International Maritime Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.



IMO

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Ref. T2-OSS/1.4

MSC.1/Circ.1257
5 June 2008

**GUIDANCE ON THE SURVEY AND CERTIFICATION OF COMPLIANCE OF SHIPS
WITH THE REQUIREMENT TO TRANSMIT LRIT INFORMATION**

1 The Maritime Safety Committee (the Committee), at its eighty-fourth session (7 to 16 May 2008), considered a number of issues which have arisen as a result of the requirement of SOLAS regulation V/19-1.6 which specifies that the shipborne equipment to be used for transmitting LRIT information should be of a type approved by the Administration, and approved the Guidance on the survey and certification of compliance of ships with the requirement to transmit LRIT information (the Guidance) as set out in the annex.

2 The Guidance outlines a number of alternative options for documenting compliance with the aforesaid requirement and sets out the approach to be taken when surveying and certifying the compliance of ships which are required to transmit LRIT information with the aforesaid obligation. The Guidance should be read together with SOLAS regulation V/19-1 and the Revised performance standards and functional requirements for the long-range identification and tracking of ships (Revised performance standards) adopted by resolution MSC.263(84).

3 The Committee also agreed to keep the Guidance under review and amend it as and when the circumstances so warrant.

4 SOLAS Contracting Governments are invited to bring the present circular and its annex to the attention of Recognized Organizations which they have authorized to act on their behalf and to provide to such Recognized Organizations any necessary further guidance and instruction so as to ensure that the objectives of this circular are achieved.

5 SOLAS Contracting Governments are also invited to bring the present circular and the salient parts of its annex to the attention of Companies operating ships entitled to fly their flag which are required to transmit LRIT information and to provide to such Companies any necessary further guidance and instruction so as to ensure that the objectives of this circular are achieved.

6 SOLAS Contracting Governments should communicate to the Organization as soon as possible the names and contact details of the Application Service Providers they have either recognized within the framework of the Revised performance standards or they have authorized to conduct conformance testing as set out in the attached Guidance, together with any conditions attached to such recognitions or authorizations and update the information as and when changes occur.

7 SOLAS Contracting Governments, international organizations and non-governmental organizations with consultative status are also invited to bring to the attention of the Committee, at the earliest opportunity, the results of the experience gained from the use of the Guidance for consideration of action to be taken.

ANNEX

GUIDANCE ON THE SURVEY AND CERTIFICATION OF COMPLIANCE OF SHIPS WITH THE REQUIREMENT TO TRANSMIT LRIT INFORMATION

1 Introduction

1.1 This note provides guidance to Contracting Governments in relation to the survey and certification of the compliance of ships, high-speed craft and mobile offshore drilling units entitled to fly their flag with the obligation to transmit LRIT information.

1.2 In addition, this note provides salient information which would enable Companies operating ships, owners and operators of high-speed craft and owners and operators of mobile offshore drilling units which are required to comply with the obligation to transmit LRIT information to ensure the survey and certification of their compliance in a timely manner.

1.3 In relation to mobile offshore drilling units, the provisions of this note apply subject to the modifications set out in section 11.

2 Related documents

2.1 The provisions relating to the survey and certification of compliance of ships with the obligation to transmit LRIT information are set out in:

- .1 Regulation V/19-1 on long-range identification and tracking of ships;
- .2 Revised performance standards and functional requirements for the long-range identification and tracking of ships adopted by resolution MSC.263(84) (the Revised performance standards);
- .3 Resolution A.694(17) on Recommendations on general requirements for shipborne radio equipment forming part of the global maritime distress and safety system (GMDSS) and for electronic navigational aids;
- .4 Resolution A.813(19) on General requirements for electromagnetic compatibility of all electrical and electronic ship's equipment;
- .5 Resolution MSC.216(82) on Adoption of amendments to the International Convention for the Safety of Life at Sea, 1974, as amended, which sets out in annex 1 amendments (amendments 50 to 52) inserting in the Record of Equipment for the Passenger Ship Safety Certificate (Form P), the Record of Equipment for the Cargo Ship Safety Equipment Certificate (Form E) and the Record of Equipment for the Cargo Ship Safety Certificate (Form C) an entry to indicate compliance with long-range identification and tracking systems;

- .6 Resolution MSC.221(82) on Adoption of amendments to the International Code of Safety for High-Speed Craft (1994 HSC Code) which sets out in the annex an amendment (amendment 9) inserting in the Record of Equipment for High-Speed Craft Safety Certificate an entry to indicate compliance with Long-range identification and tracking systems; and
- .7 Resolution MSC.222(82) on Adoption of amendments to the International Code of Safety for High-Speed Craft, 2000 which sets out in the annex an amendment (amendment 148) inserting in the Record of Equipment for High-Speed Craft Safety Certificate an entry to indicate compliance with Long-range identification and tracking systems.

3 Definitions

3.1 Unless indicated otherwise for the purposes of this note:

- .1 *Authorized testing ASP* means an Application Service Provider, other than a Recognized ASP which has been authorized by the Administration to conduct conformance tests in accordance with this note and for which related information has been communicated to the Organization in accordance with the provisions of paragraph 6.2.
- .2 *Certificate* means the Passenger Ship Safety Certificate, Cargo Ship Safety Equipment Certificate, Cargo Ship Safety Certificate and High-Speed Craft Safety Certificate issued under the provisions of the International Code of Safety for High-Speed Craft or the International Code of Safety for High-Speed Craft, 2000;
- .3 *Chapter* means a chapter of the Convention;
- .4 *Contracting Government* means a Contracting Government to the Convention.
- .5 *Convention* means the International Convention for the Safety of Life at Sea, 1974, as amended;
- .6 *Radio related certificate* means the Passenger Ship Safety Certificate, Cargo Ship Safety Radio Certificate, Cargo Ship Safety Certificate and High-Speed Craft Safety Certificate issued under the provisions of the International Code of Safety for High-Speed Craft or the International Code of Safety for High-Speed Craft, 2000;
- .7 *Record of Equipment* means the Record of Equipment for the Passenger Ship Safety Certificate (Form P), the Record of Equipment for the Cargo Ship Safety Equipment Certificate (Form E), the Record of Equipment for the Cargo Ship Safety Certificate (Form C) and the Record of Equipment for High-Speed Craft Safety Certificate issued under the provisions of the International Code of Safety for High-Speed Craft or the International Code of Safety for High-Speed Craft, 2000;

- .8 *Recognized ASP* means an Application Service Provider which has been recognized by the Contracting Government concerned pursuant to the provisions of paragraphs 5.1.1 and 5.1.2 of the Revised performance standards and for which related information has been communicated to the Organization in accordance with the provisions of paragraph 5.2 of the Revised performance standards;
- .9 *Regulation* means a regulation of the Convention;
- .10 *Ship* refers to ships, high-speed craft and mobile offshore drilling units which are required to comply with the provisions of regulation V/19-1.

3.2 Terms used in this note not otherwise defined have the meaning assigned to them in chapters I, IV and V or in the Revised performance standards.

4 Shipborne equipment to be of a type approved by the Administration

4.1 Regulation V/19-1.6 specifies that the shipboard equipment to be used to transmit LRIT information (shipborne equipment) shall be of a type approved by the Administration.

4.2 Compliance of the shipborne equipment with the requirements of regulation V/19-1.6 should be demonstrated by the equipment being:

- .1 of a type approved by the Administration in accordance with the provisions of regulation V/19-1 and section 4 of the Revised performance standards; or
- .2 certified by the Administration as meeting the requirements of regulation IV/14 and satisfactorily completing a conformance test in accordance with the procedures and provisions set out in appendix 1; or
- .3 certified by the Administration as meeting the requirements of IEC 60945 (2002-08) and IEC 60945 Corr.1 (2008-04) on Maritime navigation and radiocommunication equipment and systems – General requirements - Methods of testing and required test results and satisfactorily completing a conformance test in accordance with the procedures and provisions set out in appendix 1.

5 Conformance test

5.1 The conformance test should be conducted either by a recognized ASP or by an authorized testing ASP.

5.2 For ships constructed on or after 31 December 2008, the conformance test should be:

- .1 conducted after the completion of the initial survey of the radio installation, provided such survey has indicated that, as far as the radio installation is concerned, the ship meets the related requirements for the issue of a radio related certificate; and
- .2 satisfactorily completed prior to the issue of a radio related certificate.

5.3 For ships constructed before 31 December 2008, the conformance test should be:

- .1 conducted within a period of three months prior to the date on which a ship would need to demonstrate compliance with the requirements of regulation V/19-1; and
- .2 satisfactorily completed prior to the amendment of the record of equipment to document compliance with the requirements relating to Long-range identification and tracking system.

6 Communication of information in relation to Application Service Providers

6.1 Unless the Administration concerned informs the Organization otherwise, recognized ASPs should be automatically considered as being authorized by the Administration concerned to conduct conformance tests in accordance with the provisions of this note.

6.2 Administrations should provide to the Organization a list with the names and contact details of the authorized testing ASPs together with any associated conditions of authorization and thereafter should, without undue delay, update the Organization as changes occur.

6.3 The Organization should communicate the information it receives pursuant to the provisions of paragraph 5.2 of the Revised performance standards and the information it receives pursuant to paragraphs 6.1 and 6.2 to all Contracting Governments, international organizations and non-governmental organizations with consultative status.

7 Conformance test report

7.1 On satisfactory completion of a conformance tests, the ASP conducting the test should issue a Conformance test report on behalf of the Administration in accordance with the model set out in appendix 2.

7.2 The Conformance test report should be considered as no longer remaining valid if:

- .1 there is a change in the shipborne equipment used to transmit LRIT information;
- .2 the ship is transferred to the flag of another Contracting Government, subject to the provisions of paragraph 10.1;
- .3 the ASP which has issued the Conformance test report has notified the Administration or the Recognized Organization who, acting on behalf of the Administration, has issued the certificate is no longer in a position to attest the validity of the report; and
- .4 the Administration has withdrawn the recognition or authorization of the ASP which conducted the conformance test. However, in such cases the Administration concerned may decide that the Conformance test report, issued either prior to the date of withdrawal of such recognition or authorization or prior to a date determined by the Administration, remain valid subject to these being considered as being the responsibility of Administration.

7.3 Administration choosing to use the services of authorized testing ASPs should ensure that the recognized ASP(s) are able to integrate into the LRIT system the ships to which an authorized testing ASP has issued Conformance test reports.

8 Initial certification of compliance on or after 31 December 2008

8.1 The conformance test has been designed to also demonstrate compliance of the shipborne equipment with the functional requirements of V/19-1.5 and section 4 of the Revised performance standards.

8.2 For ships constructed on or after 31 December 2008, prior to the issue of a certificate, the shipborne equipment should satisfactorily complete a conformance test in accordance with the procedures and provisions set out in appendix 1 within the periods specified in paragraph 5.2.

8.3 For ships constructed before 31 December 2008, prior to the amendment of the record of equipment associated with a valid certificate or the renewal of a certificate in case it is also due, the shipborne equipment should satisfactorily complete a conformance test in accordance with the procedures and provisions set out in appendix 1 within the period specified in paragraph 5.3 and the survey of the radio installation has indicated that, as far as the radio installation is concerned, the ship meets the related requirements for the renewal or endorsement of the radio related certificate.

8.4 Notwithstanding paragraphs 8.2 and 8.3, shipborne equipment which has already satisfactorily completed a conformance test for the purposes of demonstrating compliance with the requirement to be of a type approved by the Administration (refer to paragraphs 4.2.2 and 4.2.3) are not required to undergo any further conformance test, provided such tests have been conducted within the periods specified in paragraphs 5.2 or 5.3, as the case may be.

9 Renewal and annual survey after the initial certification of compliance

9.1 During any renewal or annual survey following the initial certification of compliance of a ship with the requirements of regulation V/19-1, the related certificate should be issued or endorsed, as the case may be, provided the Conformance test report is still valid taking into account the provisions of paragraph 7.2.

10 Transfer of flag

10.1 When a ship is transferred to the flag of another Contracting Government, the Conformance test report should be considered as remaining valid if the ASP which conducted the conformance test is also either a recognized ASP or an authorized testing ASP by the Contracting Government to whose flag the ship is transferred.

10.1.1 In such cases the ASP concerned should reissue the Conformance test report on behalf of the Administration concerned henceforth indicating the new particulars of the ship but without altering the date of completion of the conformance test.

10.2 In cases where the Conformance test report is deemed to be no longer valid, due to the transfer of the flag to another Contracting Government, a new conformance test should be conducted, prior to the issue of a certificate, by either a recognized ASP or an authorized testing ASP acting on behalf of the Administration concerned.

11 Specific provisions in relation to mobile offshore drilling units

11.1 Mobile offshore drilling units may be required by the Contracting Government whose flag they may be entitled to fly to comply with the provisions of the:

- .1 national codes or requirements for the construction and equipment of mobile offshore drilling units, in case they were constructed prior 31 December 1981; or
- .2 Code for the construction and equipment of mobile offshore drilling units adopted by resolution A.414(XI) (the 1979 MODU Code); or
- .3 Code for the construction and equipment of mobile offshore drilling units, 1989 adopted by resolution A.649(16) (the 1989 MODU Code) in case their keel was laid or was at a similar state of construction on or after 1 May 1991.

11.2 The provisions of this note should apply *mutatis mutandis* to mobile offshore drilling units subject to any reference to certificate and radio related certificate in this note being read as referring:

- .1 for mobile offshore drilling units constructed on or after 31 December 2008, to the Mobile Offshore Drilling Unit Safety Certificate, 1989 issued pursuant to the provisions of the 1989 MODU Code; and
- .2 for mobile offshore drilling units constructed before 31 December 2008, to either the Mobile Offshore Drilling Unit Safety Certificate issued pursuant to the provisions of the 1979 MODU Code or the Mobile Offshore Drilling Unit Safety Certificate, 1989 issued pursuant to the provisions of the 1989 MODU Code or a certificate or document issued under a national code or requirements in case of units constructed prior to 31 December 1981, as the case may be.

11.3 As the Mobile Offshore Drilling Unit Safety Certificate and the Mobile Offshore Drilling Unit Safety Certificate, 1989 are not accompanied by a record of equipment, mobile offshore drilling units should be considered as meeting the requirements when:

- .1 the provisions of sections 4, 5 and 8 are met;
- .2 there is on board a valid certificate or document issued under a national code or requirements in case of units constructed prior to 31 December 1981, or a valid Mobile Offshore Drilling Unit Safety Certificate or a valid Mobile Offshore Drilling Unit Safety Certificate, 1989; and
- .3 there is on board a valid Conformance test report.

Appendix 1

Conformance Test

1 Shipborne equipment requirements testing matrix

1.1 The table set out below has been derived from an analysis of the salient provisions of regulation V/19-1, the Revised Performance standards and the Technical specifications for communications within the LRIT system and specifies for each regulatory requirement the conformance test to be conducted.

Table 1

Shipborne equipment regulatory requirements testing matrix

<i>Column heading</i>	<i>Explanation</i>
Ref.	Regulatory reference
Regulatory text	The text of the related provision with minor paraphrasing and <i>emphasis</i> (showing in italics)
CTN	Conformance test number

<i>Symbols</i>	<i>Explanation</i>
R	Paragraph of the related provisions of regulation V/19-1
PS	Paragraph of the related provision of the Revised Performance standards
TS	Paragraph of the related provision of the Technical specifications for communications within the LRIT system (refer MSC.1/Circ.1259 on Revised interim technical specifications for the LRIT system)
EL	Shipborne equipment lifecycle, i.e., requirements not explicitly defined in the regulatory text but critical to the successful operation of the LRIT system

Ref.	Regulatory text	CTN
R:4.1.1 to R:4.1.3	Ships shall be fitted with a system to automatically transmit the information specified in regulation V/19-1.5 as follows: ... ships constructed before 31 December 2008 and <i>certified for operations</i> in sea areas A1 to A4	1
PS:4.3	The equipment should transmit the LRIT information using a communication system which <i>provides coverage</i> where the ship operates	1
R:5	Ships shall <i>automatically</i> transmit the following long-range identification and tracking information	2
R:5.1	The <i>identity</i> of the ship	3
PS:4.2 (Table 1)	The equipment should transmit <i>the shipborne equipment identifier</i> ...	3
R:5.2	The <i>position</i> of the ship (latitude and longitude)	4a

Ref.	Regulatory text	CTN
PS:4.2 (Table 1)	Position – the equipment should be capable of transmitting the GNSS position (latitude and longitude), based upon <u>WGS84</u> datum, without human interaction on board the ship	4b
R:5.3	The <u>date and time of the position</u> provided	5a
PS:4.2(Table 1)	Date and time – the equipment should be capable of transmitting the date and time associated with the GNSS position with each transmission of LRIT information, and the time should be in <u>UTC</u>	5b
TS:2.2.2.6	The parameters provided by the equipment include: the latitude; longitude; <u>Time Stamp when the position was generated</u> ...	5c
TS: Table 2	The parameters provided by the equipment include: the latitude; longitude; <u>Time Stamp when the position was generated</u> ...	5c
R:6	Systems and equipment used to meet the requirements of regulation V/19-1 shall conform to the performance standards and functional requirements not inferior to those adopted by the Organization. Any shipboard equipment should be of a <u>type approved</u> by the Administration	6
R:7	Systems and equipments used to meet the requirements of this regulation shall be capable of being <u>switched off on board or be capable of ceasing the distribution</u>	7
PS:4.1	<u>In addition to the general requirements contained in resolution A.694(17)</u> on Recommendations on general requirements for shipborne radio equipment for part of the global maritime distress and safety system (GMDSS)	8
PS:4.1.5	<u>Be tested for electromagnetic compatibility</u> taking into account the recommendations developed by the Organization (refer to Assembly resolution A.813(19) on General requirements for electromagnetic compatibility of all electrical and electronic ship's equipment)	8
PS:4.2 (Table 1)	Pre-scheduled position reports – the equipment should be capable of being remotely configured to transmit LRIT information at intervals ranging from a <u>minimum of 15 min</u> to periods of 6 h to the LRIT Data Centre, irrespective of where the ship is located and without human interaction on board the ship	9a
PS:4.1.2	Be capable of <u>being configured remotely</u> to transmit LRIT information at variable intervals	9b
TS:2.2.3.12	The “Request Type” parameter indicates whether the request is for either a one-time poll, ... <u>polls at a specified rate</u> ...	9b
PS:4.1.1	Be capable of automatically and without human intervention on board the ship transmit the ship's LRIT information at <u>6-hour intervals</u> to an LRIT Data Centre	9c
PS:4.4.1	When a ship is undergoing repairs in dry-dock or in port or is laid up for a long period, the master or the Administration may reduce the frequency of the transmission of LRIT information to <u>one report every 24-hour period</u> ...	9d

Ref.	Regulatory text	CTN
PS:13.1	LRIT information should be available to an LRIT Data User <i>within 15 min</i> of the time it is transmitted by the ship. In lieu for the purposes of testing to an ASP	9e
PS:4.1.3	Be capable of <i>transmitting LRIT information following receipt of polling commands ...</i>	10
PS:4.2 (Table 1)	On-demand position reports – the equipment should be capable of <i>responding to a request to transmit LRIT information</i> on demand without human interaction on board the ship, irrespective of where the ship is located	10
PS:13.2	On-demand LRIT information reports should be provided to an LRIT Data User <i>within 30 min</i> of the time the LRIT Data User requested the information. In lieu for the purposes of testing to an ASP	10
PS:4.1.4	Interface <i>directly</i> to the shipborne global navigation satellite system equipment, or have <i>internal</i> positioning capability	11
PS:4.1.5	Be <i>supplied with energy from the main and emergency source of electrical power.</i>	12
PS:4.4	The equipment should be set to automatically transmit the ship's LRIT information at 6-hour intervals <i>to the LRIT Data Centre identified by the Administration ...</i>	13
PS:5.3.1	An ASP function should, <i>inter alia</i> , provide a communication protocol interface between the <i>Communication Service Providers and the LRIT Data Centre ...</i>	13
PS:5.3.1	An ASP function should, <i>inter alia</i> , ensure that LRIT information is <i>collected, stored and routed in a reliable and secure manner ...</i>	13

2 Shipborne equipment test requirements, procedures and acceptance criteria matrix

2.1 The table set out below specifies the shipborne equipment test requirements, the related procedures and the corresponding acceptance criteria for each conformance test and provides a brief citation of the related regulatory provisions.

Table 2

Shipborne equipment test requirements, procedures and acceptance criteria

CTN	Test requirement	Acceptance criteria
	Procedure	
EL1	The equipment is activated into the ASP system ASP issuance of an activation command (Note: this function is critical during the transfer of flag process).	CSP acknowledgement received
1	Establish the sea areas the ship is certified to operate from the Cargo Ship Safety Radio Certificate, Cargo Ship Safety Certificate, Passenger Ship Safety Certificate or equivalent Administrative	Confirmed by shipowner declaration on testing registration form prior to testing including certificate type and reference number
2	The equipment automatically transmits an LRIT information Evaluative	Validated in conjunction with CTN 9
3	The equipment identity is present in the received LRIT information Evaluative	Validated in conjunction with CTN 9
4a	The latitude and longitude is present in the received LRIT information Evaluative	Validated in conjunction with CTN 9
4b	The equipment GNSS position information is based upon the WGS84 datum Evaluative	Assumed compliant in accordance with standard IMO guidelines and regulations.
5a	The date and time is present in the received LRIT information Evaluative	Validated in conjunction with CTN 9
5b	The equipment date and time information is in UTC Evaluative	Confirmed by the ASP recognized by the Administration or approved to conduct conformance testing based upon the confirmed inclusion of MEM code 11 (in the case of Inmarsat-C) and in the case of alternate hardware the compliance of the received message structure with the equipment manufacturers published standard for a message containing the generated Date and Time stamp.

CTN	Test requirement	Acceptance criteria
	Procedure	
5c	The equipment transmits a Time Stamp relative to when the position was generated (not the CSP receipt time) Evaluative	Confirmed by the ASP recognized by the Administration or approved to conduct conformance testing based upon the confirmed inclusion of MEM code 11 (in the case of Inmarsat-C) and in the case of alternate hardware the compliance of the received message structure with the equipment manufacturers published standard for a message containing the generated Date and Time stamp.
6	The equipment is of a type approved by the Administration Administrative	Forms the subject of this test specification which will be if the results are satisfactory and a Statement of conformity is issued by the ASP conducting the test (and the subsequent issuance of a Certificate of compliance by the Administration)
7	The equipment is switched off on board or ceases the distribution of LRIT information ASP outbound Program-Stop command	CSP acknowledgement received and nil LRIT information are transmitted within 90 min
8	The equipment is compliant with provisions of resolution A.694(17) The equipment has been tested for electromagnetic compatibility (refer to resolution A.813(19)) Administrative	Confirmed by manufacturer or validation of technical specification
9a	The equipment is re-configured to automatically transmit LRIT information at 15-min intervals ASP issuance of Start-15 min reporting command	Confirmed subsequent to receipt of 48 consecutive 15-min automatic transmissions of LRIT information. Refer to paragraph 3.2 for information on acceptable tolerances.
9b	The equipment is re-configured to automatically transmit LRIT information at 60-min intervals demonstrating that a change in transmitting interval has been successfully achieved ASP issuance of Start-60 min reporting command	Confirmed subsequent to receipt of 12 consecutive 60-min automatic transmissions of LRIT information. Refer to paragraph 3.2 for information on acceptable tolerances.
9c	The equipment automatically transmits a LRIT information at 6-h intervals Administrative	Confirmed by ASP or manufacturer or validation of the technical specification

CTN	Test requirement	Acceptance criteria
	Procedure	
9d	The equipment is re-configured to automatically transmit LRIT information at 24 h intervals Administrative	Confirmed by ASP or manufacturer or validation of technical specification
9e	LRIT information is available within 15 min of the time it is transmitted by the ship Comparison of the UTC time stamp when the LRIT information was generated against the UTC time stamp when the information was received by the ASP	Validated in conjunction with CTN 9a and 9b
10	The equipment transmits LRIT information (subsequent to the ASP issuing a poll command) and the LRIT information is available within 30 min of the time the ASP has requested the information ASP issuance of a Send-Request for Position command	Confirmed subsequent to receipt of 1 polled transmission of LRIT information within 30 min
11	The equipment interfaces directly to the shipborne global navigation satellite system equipment, or has internal positioning capability Administrative	Confirmed by ASP or manufacturer or by validation of technical specification if internal GPS, or if external GPS confirmed by shipowner declaration on testing registration form prior to testing.
12	The equipment is supplied with energy from the main and emergency source of electrical power (this provision does not apply to Inmarsat-C) Administrative	Confirmed by shipowner declaration on testing registration form prior to testing
13	The equipment automatically transmits LRIT information via the CSP to the ASP in a reliable and secure manner Administrative	Confirmed by the ASP recognized by the Administration or approved to conduct conformance testing based upon confirmation that all communication links from the terminal – satellite – CSP – ASP are direct and secure with no third party ASP involvement
EL2	The equipment is de-activated and released from the LRIT system ASP issuance of deactivation command or Administrative (Note: this function is critical during the transfer of flag process)	CSP acknowledgement or CSP declaration received

3 Shipborne equipment performance acceptance criteria and tolerances

3.1 When considering the performance of the LRIT system and the implications of the performance shipborne equipment the following issues need to be taken into account:

- .1 The overall LRIT system utilizes a sophisticated array of hardware components, software systems and satellite/terrestrial communications networks, which include without limitation:
 - .1 Shipborne equipment;
 - .2 Communications satellites;
 - .3 Land Earth Stations;
 - .4 Terrestrial communication networks;
 - .5 CSP routing/switching systems; and
 - .6 ASP systems;
- .2 In common with all real world systems the overall LRIT system may suffer from data losses and data latency, i.e. non-delivery/late-delivery of messages;
- .3 Data losses in the system as a whole are result of a complex interaction of each of its components. The cause of losses can be as technical a packet collision in the space segment or as practical as an equipment blockage caused by a ship funnel or crane, in port, etc.;
- .4 In order to specify the conditions of the conformance testing scheme it should be assumed that the average loss rate of messages sent to and from the existing potential equipment is 4% in each direction. Thus the loss on a command and response pair such as Data Network Identifier (DNID) download and its acknowledgement is 8%, and the loss on an automatic LRIT information transmission is 4%;
- .5 Data latency in the system arises from the store-and-forward nature of the communication networks used. Each part of the communication chain, first stores a message and then forwards it to the next link which produces a robust system but one which has intrinsically variable latency;
- .6 In order to specify the conditions of conformance testing scheme it should be assumed that 1 h latency is within the normal operation of the system;
- .7 The design of a test for the conformance testing scheme allows for the real world performance of the overall LRIT system. Hence, it should be a design objective of the test that terminals are not incorrectly failed and thus cause shipowners to needlessly replace equipment.
- .8 Consider a poll request, it should be assumed that 8% of poll request/responses are lost therefore a fair test requires that the poll request is repeated in a sequence of attempts.

Table 3
Poll attempts and expectations

Attempt	P(Success)	P(Failure)	Expectation	Cumulative P(Success)	Cumulative Expectation
1	0.92000	0.08000	0.92000	0.92000	0.92000
2	0.07360	0.00640	0.14720	0.99360	1.06720
3	0.00589	0.00051	0.01766	0.99949	1.08486

Notes:

<i>Column heading</i>	<i>Explanation</i>
Attempt	Number of attempts
P(Success)	Probability of success on that attempt
P(Failure)	Probability of failure on that attempt
Expectation	Contribution to the expected number of attempts
Cumulative P	Cumulative probability of success
Cumulative Expectation	Cumulative expectation of number of attempts required for a successful download

- .9 Table 3 demonstrates that if the system retries the poll three times there is a 1 in 1,000 chance of wrongly failing an equipment due to statistical variation. The cumulative expectation shows that the cost of testing apparent non-compliant terminals is only increased by 8% compared to a regime which had only a single attempt;
- .10 Consequently, it is recommended that each command is retried a maximum of three times unless statistical variation can be excluded because of a network response, e.g., if the ship is in port and the equipment confirmed by the communication system as logged-out;
- .11 The ASP recognized by the Administration or approved to conduct conformance testing should properly account for different network regions. For example the Inmarsat-C network has 4 ocean regions and the test provider must ensure that they have addressed the region containing the equipment;
- .12 This calculation assumes uncorrelated failures within the network which it is assumed to be true where there is a reasonable interval between attempts. To increase the likelihood that this assumption is correct it is recommended that the system retries are separated by at least 15 min; and
- .13 A similar analysis may be performed for receipt of automatic transmission of LRIT information. The more transmission of LRIT information that are received the greater confidence there may be that the equipment is conformant while not wrongly failing units. To achieve a 1 in 1,000 confidence of wrongly failing units it is recommended that 40 out of 48 transmissions of LRIT information are received with a transmitting interval of 15 min and 10 out of 12 transmission of LRIT information with a transmission interval of 1 h.

3.2 The table set out below specifies for each conformance test the related acceptance criteria and the tolerances or limits within which the functional performance of existing equipment should be before it is considered as being acceptable.

Table 4

Shipborne equipment performance acceptance criteria and tolerances

CTN	Acceptance criteria	Tolerances
EL1	CSP acknowledgement received	Maximum of 3 attempts separated by a minimum of 15 min
1	Confirmed by shipowner declaration on testing registration form prior to testing including certificate type and reference number	None
2	Validated in conjunction with CTN 9	None
3	Validated in conjunction with CTN 9	None
4a	Validated in conjunction with CTN 9	None
4b	Assumed compliant in accordance with standard IMO guidelines and regulations.	None
5a	Validated in conjunction with CTN 9	None
5b	Confirmed by ASP recognized by the Administration or approved to conduct conformance testing based upon the confirmed inclusion of MEM code 11 (in the case of Inmarsat-C) and in the case of alternate hardware the compliance of the received message structure with the equipment manufacturers published standard for a message containing the generated Date and Time stamp.	None
5c	Confirmed by ASP recognized by the Administration or approved to conduct conformance testing based upon the confirmed inclusion of MEM code 11 (in the case of Inmarsat-C) and in the case of alternate hardware the compliance of the received message structure with the equipment manufacturers published standard for a message containing the generated Date and Time stamp.	None
6	Forms the subject of this test specification which will be if the results are satisfactory and a Statement of conformity is issued by the ASP conducting the test (and the subsequent issuance of a Certificate of compliance by the Administration)	None
7	CSP acknowledgement received and nil position reports received within 15 min	Maximum of 3 attempts separated by a minimum of 15 min
8	Confirmed by manufacturer or by validation of technical specification	None

CTN	Acceptance criteria	Tolerances
9a	Confirmed subsequent to receipt of 48 consecutive transmissions of LRIT information transmitted at 15-min intervals	3 attempts separated by a minimum of 15 min Acceptable results: a minimum of 40 out of 48 transmissions are received (>82% success rate)
9b	Confirmed subsequent to receipt of 12 consecutive transmissions of LRIT information transmitted at 60-min intervals	3 attempts separated by a minimum of 15 min Acceptable results: a minimum of 10 out of the 12 transmissions are received (>82% success rate)
9c	Confirmed by ASP or manufacturer or by validation of technical specification	None
9d	Confirmed by ASP or manufacturer of by validation of technical specification	None
9e	Validated in conjunction with CTN 9a and 9b	Satisfactory: a minimum of 50 out of 60 transmissions are received (>82% success rate)
10	Confirmed subsequent to receipt of 1 polled transmission of LRIT information within 30 min	3 attempts separated by a minimum of 15 min Satisfactory: a minimum 1 out of 1 transmissions are received (100% success rate)
11	Confirmed by ASP or manufacturer of by validation of technical specification if internal GPS, or if external GPS confirmed by shipowner declaration on testing registration form prior to testing	None
12	Confirmed by shipowner declaration on testing registration form prior to testing	None
13	Confirmed by the ASP recognized by the Administration or approved to conduct conformance testing based upon confirmation that all communication links from the equipment – satellite – CSP – ASP are direct and secure with no third party ASP involvement	None
EL2	CSP acknowledgement or CSP declaration received	3 attempts separated by a minimum of 15 min

4 Estimated duration of conformance testing

4.1 Based upon the equipment requirements testing matrix, the test requirements, the procedures, the acceptance criteria and the acceptable tolerances detailed in this annex, the table set out below provides information on the estimated duration of the conformance testing:

Table 5

Estimated duration of conformance testing

CTN	Tolerances	Maximum Duration
EL1	3 attempts separated by a minimum of 15 min	45 min
9a	3 attempts separated by a minimum of 15 min Acceptable results: a minimum of 40 out 48	45 min 720 min (12 h)
9b	3 attempts separated by a minimum of 15 min Acceptable results: a minimum of 10 out of 12	45 min 720 min (12 h)
10	3 attempts separated by a minimum of 15 min	45 min
7	3 attempts separated by a minimum of 15 min	45 min + wait 90 min
EL2	3 attempts separated by a minimum of 15 min	45 min
	<i>Total</i>	30 h

Appendix 2

Conformance test report

issued by

on behalf of the Government of

Name of ship:	
Port of registry:	
Distinctive number or letters:	
IMO Number:	
Maritime Mobile Service Identity:	
Gross tonnage:	
Sea areas in which the ship is certified to operate:	
Date of last survey of the radio installation:	
Application Service Provider conducting the test:	

THIS IS TO CERTIFY that a conformance test has been conducted in accordance with the provisions of MSC.1/Circ.1257 on Guidance on the survey and certification of compliance of ships with the requirement to transmit LRIT information and the shipborne equipment specified below has been:

- .1 found to perform within the tolerances of the acceptance criteria stated in the aforesaid circular; and
- .2 set, at the end of the conformance test to transmit LRIT information at hour interval.

Details of the shipborne equipment used to transmit LRIT information (e.g., maker model, serial number and shipborne equipment identifier):

The results of the conformance test are recorded in the attached annex.

The conformance test was satisfactorily completed on
(date of completion of testing)

Issued at on
(place of issue) (date of issue)

.....
(name and signature of authorized person issuing the report)

Annex

Conformance test results

to be developed on the basis of Table 2 of Appendix 1

CTN	Test requirement	Results



Ref. T2-OSS/1.4

MSC.1/Circ.1258
5 June 2008

**GUIDANCE TO SEARCH AND RESCUE SERVICES IN RELATION
TO REQUESTING AND RECEIVING LRIT INFORMATION**

1 The Maritime Safety Committee (the Committee), at its eighty-fourth session (7 to 16 May 2008), considered a series of questions developed by the Sub-Committee on Radiocommunications and Search and Rescue, at its twelfth session, in relation to provision of LRIT information to Search and rescue services and approved the Guidance to Search and rescue services in relation to requesting and receiving LRIT information (the Guidance), as set out in the annex.

2 The Committee also agreed to keep the Guidance under review and to amend it, as and when the circumstances warrant.

3 SOLAS Contracting Governments are invited to bring the present circular and its annex to the attention of their Search and rescue services (SAR services) and to provide them with any necessary further guidance and instruction so as to ensure that the objectives of this circular are achieved.

4 SOLAS Contracting Governments are invited to bring the present circular and its annex to the attention of those engaged in the implementation of the provisions of SOLAS regulation V/19-1 and/or the development and establishment of their LRIT Data Centres and/or the initial establishment of the LRIT system.

5 The United States, having agreed to provide the International LRIT Data Exchange on an interim basis, is invited to bring the present circular to the attention of those engaged in the development and establishment of the International LRIT Data Exchange.

6 SOLAS Contracting Governments, international organizations, non-governmental organizations with consultative status, the LRIT Coordinator, LRIT Data Centres acting through the SOLAS Contracting Government(s) which have established them, the International LRIT Data Exchange acting through the United States and SAR services acting through their SOLAS Contracting Government(s), are also invited to bring to the attention of the Committee, at the earliest opportunity, the results of the experience gained from the use of the Guidance for consideration of action to be taken.

ANNEX

GUIDANCE TO SEARCH AND RESCUE SERVICES IN RELATION TO REQUESTING AND RECEIVING LRIT INFORMATION

1 Purpose

1.1 This note provides guidance to Search and rescue services¹ of Contracting Governments² in relation to requesting and receiving LRIT information³ transmitted by ships⁴.

2 Related documents

2.1 This note should always be read in conjunction with the salient provisions of:

- .1 Regulation V/19-1 on Long-range identification and tracking of ships;
- .2 Revised performance standards and functional requirements for the long-range identification and tracking of ships adopted by resolution MSC.263(84); and
- .3 Technical specifications for the LRIT system⁵.

3 Definitions

3.1 Unless expressly indicated otherwise the terms used in this note have the meaning assigned to them in the related documents listed above.

4 Requesting LRIT information

4.1 A Search and rescue service (SAR service) of Contracting Governments should request, pursuant to the provisions of regulation V/19-1.12, the provision of LRIT information for the search and rescue of persons in distress at sea only via the LRIT Data Centre serving the Contracting Government in whose territory the service is located (the LRIT Data Centre).

4.2 SAR services should request the Contracting Governments in whose territory the service is located to advise them which LRIT Data Centre they should use and to provide them with the contact details of the centre.

4.3 SAR services should also request the Contracting Governments in whose territory the service is located to provide them with any related guidance and instructions the Contracting Government concerned has established in relation to the provision of LRIT information to them.

¹ Regulation V/2.5 defines *Search and rescue service* as the performance of distress monitoring, communication, coordination and search and rescue functions, including provision of medical advice, initial medical assistance, or medical evacuation, through the use of public and private resources including cooperating aircraft, ships, vessels and other craft and installations.

² *Contracting Government* means a Contracting Government to the International Convention for the Safety of Life at Sea, 1974, as amended.

³ Refer to regulation V/19-1.5.

⁴ *Ship* refers to ships, high-speed craft and mobile offshore drilling units which are required to comply with the provisions of regulation V/19-1.

⁵ Refer to MSC.1/Circ.1259 on Interim revised Technical specifications for the LRIT system.

4.4 SAR services are advised to establish with the LRIT Data Centre they will be using working procedures and arrangements so as to ensure easy and efficient communications and the expedient processing of their requests for LRIT information.

4.5 Regulation V/19-1.12 specifies that the SAR service of Contracting Governments shall be entitled to receive LRIT information for the search and rescue of persons in distress at sea. Thus, the right to request LRIT information is not limited to SAR services established by Parties to the 1979 SAR Convention.

4.5.1 However, SAR services will be able to request and receive LRIT information only if the Contracting Government which has established them has communicated the relevant information to the Organization and the related details have been included in the Search and rescue module of the Global Integrated Shipping Information System (GISIS) of the Organization.

4.5.2 All LRIT Data Centres other than the centre serving the SAR service concerned and the International LRIT Data Exchange are able to process requests for LRIT information only if the LRIT Data Centre serving the SAR service indicates in the request for information the LRIT ID of the LRIT Data User requesting the information. The LRIT Data Distribution Plan, which assigns the LRIT IDs for LRIT Data Users, is able to assign LRIT IDs to SAR services only if the necessary information is provided in the Search and rescue module of GISIS.

4.6 The provisions of regulation V/19-1.9.1 in relation to the right of an Administration to limit the provision of LRIT information to a Contracting Government requesting such information pursuant to the provisions of regulation V/19-1.8.1.3 do not apply in relation to request of such information by SAR services.

4.7 Regulation V/19-1.12 does not draw any distinction between maritime and aeronautical search and rescue incidents and allows SAR services to request LRIT information, as long as it is for the purpose of the search and rescue of persons in distress at sea.

4.8 A request for the provision of LRIT information for the search and rescue of persons in distress at sea is initiated by the LRIT Data Centre serving the SAR service transmitting a SAR SURPIC message via the International LRIT Data Exchange for broadcast to all LRIT Data Centres. This message requests the most recent data from the databases within all LRIT Data Centres in order to provide the SAR services with the ability to obtain a picture of ships in a given search area. In order to determine whether ships in the search area are transiting towards or away from a specific location the SAR service can request up to the last 4 preset transmission LRIT information from all ships in search area. From that information the SAR service can identify which ships are more favourably positioned to respond to the situation and can poll those ships directly to determine their current locations.

5 Information to be provided when requesting LRIT information

5.1 A SAR service, when wishing to receive LRIT information should indicate to the LRIT Data Centre the criteria to be used by the centre when providing the requested information.

5.2 The criteria to be provided are:

- .1 the geographical area within which LRIT information is requested; and
- .2 the number of LRIT information transmissions requested.

5.3 All LRIT Data Centres are required to provide to SAR services LRIT information irrespective of the location of the geographical area within which the information is requested. Thus, SAR services are able to request LRIT information for geographical areas which are located outside the search and rescue regions which are under their responsibility.

5.3.1 The geographical area may be either circular or rectangular and for these the Technical specifications for the LRIT system use the terms SAR circular area and SAR rectangular area respectively. SAR services are advised to take into account the information provided in paragraphs 5.4 to 5.4.2 below when defining the geographical areas within which they are requesting the provision of LRIT information.

5.3.2 When requesting LRIT information within a SAR circular area the geographical position of the centre of the area should be indicated in latitude and longitude and the radius in nautical miles.

5.3.3 When requesting LRIT information within a SAR rectangular area the geographical position of the Southwest corner of the area should be indicated in latitude and longitude and the North and East offsets in nautical miles.

5.3.4 The LRIT system operates using WGS 84 datum and thus all geographical positions should be with reference to the WGS 84 datum.

5.3.5 All geographical positions should be in degrees, minutes and decimals of a minute (to 2 decimals), with a single space between the coordinates and no other spaces, without punctuation, with a stop or a comma as a decimal separator, with leading zeros for single number minutes, but not for degrees and with the minute tick following the fractional part, for example 51°42.03'N 5°07.14'E (refer to Regulations of the IHO for international (Int) charts and chart specifications – Edition 3.004 – July 2007, B 131).

5.4 The number of LRIT information transmissions requested relates to the LRIT information received within the LRIT system during the 24 hours preceding the time the LRIT Data Centre will lodge the request of the SAR service for LRIT information and for these the Technical specifications for the LRIT system use the term number of position reports. In this respect it should be noted that, unless there is a demand for the transmission of LRIT information at more frequent intervals, the shipborne equipment are preset to transmit LRIT information at 6-hour intervals.

5.4.1 When a SAR service indicates a value of 2 in relation to the number of positions it is requesting, it will receive the last two LRIT information transmissions from all ships within the defined geographical area during the previous 24 hours. If the SAR service does not indicate any value in relation to the number of positions, it will receive the latest available transmission of LRIT information from all ships within the defined geographical area.

5.4.2 SAR services are advised to indicate to the LRIT Data Centre the number of positions they are requesting as it will provide them information in relation to the direction the various ships are heading. However, the number of positions to be requested should not exceed 4.

6 Processing of initial requests for LRIT information

6.1 The LRIT Data Centre serving the SAR service will, using the criteria provided by the SAR service, formulate a request for the provision of LRIT information for search and rescue purposes, in accordance with the provisions of the Technical specifications for the LRIT system, and will forward it to the other LRIT Data Centres through the International LRIT Data Exchange.

6.2 The LRIT Data Centres receiving the request for such information will process it using the criteria provided in the request and will forward, through the International LRIT Data Exchange, to the LRIT Data Centre which requested the information which is available to them.

6.3 The LRIT Data Centre will also process the request in relation to the LRIT information which is transmitted to it and will provide the SAR service with the information it has received from the other LRIT Data Centres and the information it has available.

6.4 Requests for the provision of LRIT information for search and rescue purposes are not assigned, within the LRIT system, any form of handling or processing priority over other requests for LRIT information.

6.5 The LRIT information which will be provided to a SAR service upon request will indicate the positions of the various ships in degrees, minutes and decimals of a minute (to 2 decimals), with a single space between the coordinates and no other spaces, without punctuation, with a stop or a comma as a decimal separator, with leading zeros for single number minutes, but not for degrees and with the minute tick following the fractional part, for example 51°42.03'N 5°07.14'E.

7 Requesting additional LRIT information

7.1 A SAR service, after it has assessed the LRIT information it has received following its initial request, is able to request the provision of additional LRIT information on demand (i.e., to request the polling of ships in a geographical area).

8 Limitations during the phased-in implementation

8.1 SAR services should note that, in simplified terms, regulation V/19-1.4.1 specifies that ships constructed on or after 31 December 2008 shall transmit LRIT information as from the date they enter service and for ships constructed before 31 December 2008 provides a phased-in implementation schedule which is dependant, *inter alia*, on the date on which the first survey of the radio installation of the ship becomes due after 31 December 2008 and in the case of ships which operate exclusively in sea area A4 after 1 July 2009.

8.1.1 Thus for ships constructed before 31 December 2008:

- .1 other than those operating exclusively within sea area A4, the phased-in implementation will end on 31 December 2009. However, in such cases if the Contracting Government is also a State Party to the 1988 SOLAS Protocol the phased in implementation will end on 31 March 2010; and
- .2 operating exclusively within sea area A4, the phased in implementation will end on 1 July 2010. However, in such cases if the Contracting Government is also a State Party to the 1988 SOLAS Protocol the phased-in implementation will end on 1 October 2010.

8.2 As a result SAR services are advised that until the end of the phased-in implementation there might be ships within the geographical area within which they are requesting the provision of LRIT information which might have not yet been integrated in the LRIT system. Thus, SAR services should not rely on the LRIT system to provide them a complete picture of the ships in a geographical area during the phased-in implementation.

9 Ship reporting systems

9.1 SAR services should note that the LRIT system does not replace any existing or new ship reporting system.

10 Obligations of SAR services

10.1 Regulation V/19-1.10 specifies that Contracting Governments shall, at all times:

- .1 recognize the importance of long-range identification and tracking information;
- .2 recognize and respect the commercial confidentiality and sensitivity of any long-range identification and tracking information they may receive;
- .3 protect the information they may receive from unauthorized access or disclosure; and
- .4 use the information they may receive in a manner consistent with international law.

10.2 SAR services shall consider themselves obliged to adhere, *mutatis mutandis*, to provisions of regulation V/19-1.10.

10.3 The attention of SAR services is drawn to regulation V/19-1.13 which states that Contracting Governments may report to the Organization any case where they consider that provisions of the regulation or of any other related requirements established by the Organization have not been or are not being observed or adhered to.

11 Cost of the LRIT information provided to SAR services

11.1 Regulation V/19-1.12 provides that SAR services shall be entitled to receive, free of any charges, LRIT information in relation to the search and rescue of persons in distress at sea.

11.2 SAR services should note that the provision of LRIT information to them entails expenditures and costs for the LRIT Data Centres and the International LRIT Data Exchange which needs to be paid by the other LRIT Data Users as an overhead on the charges they have to pay for the provision of LRIT information to them.

11.3 SAR services are strongly urged, notwithstanding the purpose for which they might be requesting the provision of LRIT information, to exercise the right to request LRIT information with due care and to avoid excessive requests.

12 Performance review and audit of the LRIT system

12.1 SAR services are, subject to the provisions of the national legislation of the Contracting Government in whose territory they are located, expected to provide, when requested by the LRIT Coordinator, information, to enable the holistic review of the performance of the LRIT system and for the investigation of any disputes.

12.2 SAR services are thus expected to maintain the necessary records identifying the cases for which they have requested the provision of LRIT information; what information they have requested and when, what LRIT information they have received and when; and how the information was used.

12.2.1 Such records may form part of the operational records maintained by the SAR services.

12.2.2 SAR services should note that all LRIT Data Centres are required to archive LRIT information for at least one year and until such time as the Committee reviews and accepts the annual report of the audit of their performance by the LRIT Coordinator. Thus, SAR services are expected to retain the related records until the Committee reviews and accepts the annual report of the audit of their performance of the LRIT Data Centre providing services to them.

12.3 SAR services are also expected to provide, when requested by the LRIT Coordinator, information on the arrangements they have in place in order to protect the LRIT information they may receive from unauthorized access or disclosure.